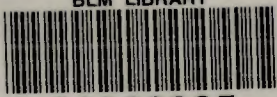


BLM LIBRARY



88066335



United States Department of the Interior
Bureau of Land Management

Burns District Office
28910 Highway 20 West
Hines, Oregon 97738

August 2003



Draft Resource Management Plan and Environmental Impact Statement

Volume 2 [of 2] - *Chapters 5 and 6, Appendices, and Maps*

Andrews Management Unit/Steens Mountain
Cooperative Management and Protection Area



BLM/OR/WA/PL-03/043+1792

**DRAFT ANDREWS MANAGEMENT UNIT/
STEENS MOUNTAIN COOPERATIVE MANAGEMENT AND
PROTECTION AREA RESOURCE MANAGEMENT PLAN AND
ENVIRONMENTAL IMPACT STATEMENT**

**TABLE OF CONTENTS
VOLUME 2**

ABBREVIATIONS AND ACRONYMS	iii
5 CONSULTATION, COORDINATION AND LIST OF PREPARERS	5-1
5.1 <u>Introduction</u>	5-1
5.2 <u>Public Participation</u>	5-1
5.2.1 Tribal Participation	5-3
5.2.2 Agencies and Organizations Contacted or Consulted	5-3
5.2.3 Agencies, Organizations, and Individuals on Mailing List	5-4
5.3 <u>List of Preparers</u>	5-6
5.3.1 Bureau of Land Management EIS Team	5-6
5.3.2 Enviroscientists, Inc. RMP/EIS Team	5-6
5.3.3 Cooperating Agencies	5-6
6 GLOSSARY, REFERENCES, AND INDEX	6-1
6.1 <u>Glossary</u>	6-1
6.2 <u>References</u>	6-12
6.3 <u>Index</u>	6-27

APPENDICES VOLUME 2

Appendix A:	Steens Mountain Cooperative Management and Protection Act of 2000 (P.L. 106-399)	A-1
Appendix B:	Subbasin Review Report - Andrews Management Unit/Steens Mountain Cooperative Management and Protection Area	B-1
Appendix C:	Summary of Public Scoping Comments for the Andrews Management Unit/Steens Mountain Cooperative Management and Protection Area Postmarked or Delivered by April 15, 2002	C-1
Appendix D:	Legal Authorities, Planning Criteria, and Management Direction and Consistency with Other Plans	D-1
Appendix E:	Consistency with Oregon Statewide Plans	E-1
Appendix F:	Best Management Practices	F-1
Appendix G:	Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands in Oregon and Washington	G-1
Appendix H:	Herbicides Approved for Use Against Noxious Weeds Listed in "Vegetation Treatment on BLM Lands in Thirteen Western States EIS and ROD"	H-1
Appendix I:	Grazing Levels and Management Practices for Livestock Grazing Allotments in the Planning Area	I-1
Appendix J:	Land Tenure Adjustment Criteria and Legal Requirements	J-1
Appendix K:	Descriptions of Areas of Critical Environmental Concern	K-1
Appendix L:	Common and Scientific Names of Plant and Animal Species	L-1
Appendix M:	Transportation	M-1
Appendix N:	Wild and Scenic Rivers Suitability Evaluations	N-1
Appendix O:	Effects of Intensity and Season of Grazing	O-1
Appendix P:	Wildlife Habitat Descriptions and Considerations	P-1

LIST OF MAPS IN THE RMP/EIS VOLUME 2

Map 1.1:	Location of the Planning Area
Map 1.2:	Administered Lands
Map 2.1:	Proposed Herd Areas/Herd Management Areas Alternatives A and D
Map 2.2:	Herd Areas/Herd Management Areas Alternatives B and C
Map 2.3:	Herd Areas/Herd Management Areas Alternative E
Map 2.4:	Land Tenure Zone Boundaries within the RMP Alternative A
Map 2.5:	Land Tenure Zone Boundaries within the Rmp Alternative C
Map 2.6:	Land Tenure Zone Boundaries within the Rmp Alternative D
Map 2.7:	Land Tenure Zone Boundaries within the Rmp Alternative E
Map 2.8:	Transportation Plan in CMPA
Map 2.9:	Off-Highway Vehicle Alternative A
Map 2.10:	Off-Highway Vehicle Alternative B
Map 2.11:	Off-Highway Vehicle Alternative C
Map 2.12:	Off-Highway Vehicle Alternative D
Map 2.13:	Off-Highway Vehicle Alternative E
Map 2.14:	ACEC/RNA/SRMA within the RMP Area Alternatives B and E and SRMA within the RMP Area Alternative E Only
Map 2.15:	ACEC/RNA/SRMA within the RMP Area Alternative C
Map 2.16:	ACEC/RNA/SRMA within the RMP Alternative D
Map 2.17:	Special Areas
Map 2.18:	Parcels with Wilderness Values Alternative C
Map 2.19:	Wilderness/Wild and Scenic River Plan
Map 3.1:	Allotment Boundaries within the RMP Area Alternative A
Map 3.2:	Transportation Plan within the RMP Area Alternative A

ABBREVIATIONS AND ACRONYM S

Reader note: Refer to the list below for abbreviations or acronyms that may be used in this document.

<u>ACRONYM</u>	<u>DEFINITION</u>
ACECs	Areas of Critical Environmental Concern
AML	Appropriate Management Level
AMP	Allotment Management Plan
AMS	Analysis of the Management Situation
AMU	Andrews Management Unit / The Planning Area outside of the Steens Mountain CMPA
Andrews RA	Andrews Resource Area
APHIS	Agricultural Plant and Animal Health Inspection Service
AUM	Animal Unit Month
BCB	Back Country Byway
BLM	Bureau of Land Management
BMPs	Best Management Practices
Burns DO	Burns District Office
CAA	Clean Air Act
CCD	Census County Divisions
CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CMPA	Steens Mountain Cooperative Management and Protection Area
CWA	Clean Water Act
DEQ	Oregon Department of Environmental Quality
DRC	Desired Range of Conditions
EA	Environmental Assessment
EIS	Environmental Impact Statement
EPA	Environmental Protection Agency
ERMA	Extensive Recreation Management Areas
ESA	Endangered Species Act
ESI	Ecological Site Inventory
FAR	Functional At Risk
FLPMA	Federal Land Policy and Management Act
FMP	Fire Management Plan
GIS	Geographic Information System
HMA s	Herd Management Areas
HUC	Hydrologic Unit Codes
ICBEMP	Interior Columbia Basin Ecosystem Management Project
ID Team	BLM interdisciplinary team
IMP	Steens Mountain CMPA Interim Management Policy
Andrews MFP	Andrews Management Framework Plan
MOAs	Memorandums of Agreement
MOU	Memorandum of Understanding
NEA	Northwest Economic Associates
NEPA	National Environmental Policy Act
NSO	No surface occupancy
ODA	Oregon Department of Agriculture
ODF	Oregon Department of Forestry
ODFW	Oregon Department of Fish and Wildlife
OHV	Off-highway vehicle
ONHP	Oregon Natural Heritage Database Program
ORV	Outstandingly Remarkable Values
OWRD	Oregon Water Resources Department
PFC	Proper functioning condition
PILT	Payment In Lieu of Taxes
Planning Area	The Entire Andrews Ra and the Portion of the Three Rivers Resource Area within the Steens Mountain CMPA
PNC	Potential Natural Community
PRIA	Public Rangelands Improvement Act of 1978

Protocol	USFS and BLM protocol for addressing CWA Section 303(d) listed waters (1998)
R&PP	Recreation & Public Purpose
RAC	Southeast Oregon Resource Advisory Council
RCA	Riparian Conservation Area
RMP	Resource Management Plan
RNA	Research Natural Area
ROD	Record of Decision
ROW	right-of-way
RTR	Donner Und Blitzen Redband Trout Reserve
S&Gs	Standards and Guidelines
SBR	subbasin review
SEORMP	Southeastern Oregon Resource Management Plan
SIP	State Implementation Plan
SMAC	Steens Mountain Advisory Council
SRMA	Special Recreation Management Areas
SRP	Special Recreation Permit
Steens Act	The Steens Mountain Cooperative Management and Protection Act of 2000
Steens Loop	Steens Mountain Loop Road
T&E	Threatened and Endangered Species
Three Rivers RA	Three Rivers Resource Area
TMDL	Total Maximum Daily Loads
TNC	The Nature Conservancy
TNR	Temporary Nonrenewable
USDA	United States Department of Agriculture
USDI	United States Department of Interior
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey
VRM	Visual Resource Management
WIS	Wilderness Information Specialist
WJMA	Wildland Juniper Management Area
WQRP	Water Quality Restoration Plan
WSA IMP	Interim Management Policy for Lands Under Wilderness Review
WSAs	Wilderness Study Areas
WSR	Wild and Scenic River
WSR Act	Wild and Scenic Rivers Act
WUI	Wildland urban interface
ybp	years before present

5 CONSULTATION, COORDINATION AND LIST OF PREPARERS

5.1 Introduction

This RMP/EIS was prepared by an ID team of resource specialists from the Burns District Office. Preparation of the SEORMP was initiated by the Vale and Burns Districts of the BLM, which initially included the Andrews RA. However, as a result of the Steens Act, the Burns District deemed it appropriate to separate the Andrews RA from the SEORMP and develop a separate plan in order to address changes in land management resulting from mandates of the Steens Act. The planning process began in early 2001 with the writing of the Preparation Plan. A consulting firm was hired in September 2001 to assist BLM in the writing of the RMP/EIS. Training of the ID core team occurred in February 2002.

5.2 Public Participation

The official start of the preparation of the AMU/Steens Mountain CMPA RMP/EIS was initiated with the publishing of a "Notice of Intent" to prepare an RMP/EIS in the *Federal Register* on December 6, 2001. This notice also included an invitation to the public to suggest issues to be addressed in the RMP and to provide comments concerning the management of public lands. In addition, 1,220 scoping packets providing information about the planning process, outlining the planning schedule, and requesting comments were mailed to individuals, organizations, and agencies. Additional copies of the scoping brochure were made available at the four scoping meetings. News releases and requests for publication or announcement were mailed to 19 media groups including the Burns Times Herald, The Bulletin, The Oregonian, and KZZR Radio. BLM representatives attended meetings with the Harney County Court to inform them of the RMP/EIS and to encourage them to make comments, request information, and generally be involved in the process. The same information was distributed to the Burns Paiute Tribal Government. The "Notice of Intent," news releases, and other mailings identified the beginning of the EIS scoping period and the location, date, and time of the public scoping meetings. The comment period extended from February through March 2002.

A SBR was conducted prior to completing the AMS or the public scoping. The SBR was a multi-agency collaborative effort to "step down" to the local level the findings and assessments of the ICBEMP. The ICBEMP was established in 1994 to develop and then adopt a scientifically sound ecosystem-based strategy for managing all USFS or BLM administered lands within the interior Columbia Basin. In other words, did the findings from the ICBEMP have any meaning to the Planning Areas? The SBR group determined that many of them did, and these were incorporated into the issues addressed in this plan (Appendix B).

The AMS Summary was prepared after the SBR and mailed to members of the public, local and tribal governments, other federal agencies, and state agencies. It contained a description of the preliminary issues, alternatives, and planning criteria, as well as the resource area profile, existing management situation, and management opportunities. A followup newsletter outlining the primary comments was then mailed to 257 individuals in July 2002. An additional 143 copies of the AMS Summary were sent to interested individuals and organizations by request. The full version of the AMS was published and made available to the public in July 2002.

The public scoping meetings were held in the following cities on the dates listed and with the stated number of attendees.

Burns, Oregon	February 27, 2002	15 attended
Frenchglen, Oregon	March 4, 2002	17 attended
Bend, Oregon	March 6, 2002	55 attended
Portland, Oregon	March 7, 2002	23 attended

As a result of the public scoping meetings, a total of 2,313 scoping letters were received. These included 1,844 letters comprised of three different form letters and 469 letters which included versions of the form letters with supplemental comments added. Each comment was summarized and included in a comment table, which is available for public review at the BLM Burns District Office during normal business hours. A total of 3,601 comments were identified, and were sorted into 23 categories. A memorandum and table summarizing the comments received are included in Appendix C. These comments were incorporated into the alternatives and the impact analysis of this RMP/EIS. In addition to public scoping meetings, a number of meetings were conducted with collaborating agencies and other interested parties. Table 5.1 summarizes the key public involvement events.

Table 5.1: Summary of Key Public Involvement Events

Date	Event
10/22/01	SMAC meeting, Hines, Oregon.
12/6/01	Notice of Intent to prepare RMP published in <i>Federal Register</i> .
12/17-18/02	SMAC meeting, Hines, Oregon.
1/8/02	Mailed letter to Burns Paiute Tribe requesting time on the Tribal Council agenda to discuss the RMP and an MOU between BLM and the Burns Paiute Tribe.
1/24-25/02	SMAC meeting, Hines, Oregon.
2/02	Scoping brochure mailed to approximately 1220 individuals, organizations, and agencies.
2/15/02	Issued a press release announcing upcoming public scoping meetings.
2/27/02	Public Scoping Meeting, Burns, Oregon (15 attendees).
2/28-3/1/02	SMAC meeting, Hines, Oregon.
3/4/02	Public Scoping Meeting, Frenchglen, Oregon (17 attendees).
3/6/02	Public Scoping Meeting, Bend, Oregon (55 attendees).
3/7/02	Public Scoping Meeting, Bend, Oregon (23 attendees).
4/3/02	Met with the Burns Paiute Tribal Council to discuss the possibility of the Burns Paiute Tribe becoming a cooperating agency and other planning related issues.
4/4-5/02	SMAC meeting, Hines, Oregon.
5/13/02	Meeting with cooperating agencies and the BLM ID team.
6/13-14/02	SMAC meeting, Hines, Oregon.
6/17/02	Meeting with Malheur NWR, DEQ, Burns Paiute Tribe, Harney County Court, Burns City Manager, and BLM ID team.
7/02/02	RMP Newsletter mailed to the public and distributed to Hines City Hall, Burns City Hall, Harney County Courthouse, Narrows Store and RV Park, Princeton Post Office, Frenchglen Post Office, Denio Post Office, Fields Store, and Emigrant Creek Ranger District.
7/1/02	Meeting with Malheur NWR, DEQ, Burns Paiute Tribe and BLM ID team.
7/8/02	E-mail message to cooperating agencies regarding time frames, upcoming meeting and newsletter.
7/20/02	Issued a press release announcing the availability of an RMP Newsletter.
7/25/02	Provided cooperating agencies with management actions.
7/29/02	Meeting with Burns Paiute Tribe, Malheur NWR, USFWS Department of Ecological Services, Burns City Manager, and BLM ID team.
8/14/02	Provided core team meeting notes to cooperating agencies.
8/15-16/02	SMAC meeting, Frenchglen, Oregon.
8/19/02	Meeting with Malheur NWR, USFWS Department of Ecological Services, Burns City Manager, and BLM ID team.

Date	Event
10/21-22/02	SMAC meeting, Bend, Oregon.
10/31/02	Press Release issued announcing the availability of the complete AMS.
12/2-3/02	SMAC meeting, Hines, Oregon.
12/11/02	Met with City of Hines, Pamela Mather, and discussed the RMP process and the possibility of the City becoming a cooperating agency. A copy of the AMS was also delivered.
1/13/03	Attended the Hines City Council meeting to update them on the RMP process and the possibility of the City becoming a cooperating agency.
1/23-24/03	SMAC meeting, Hines, Oregon.
1/28/03	Letters to permittees informing them of a WSA proposal and asking for assistance in identifying range improvements, trails, roads, and mining disturbance.
2/26/03	Mailed Chapters 1 and 3 and Chapter 2 Summary Table to SMAC and cooperating agencies for an internal review. Copies hand delivered to City of Hines, City of Burns, Harney County Court, and ODFW.
3/3-4/03	SMAC meeting, Hines, Oregon.
3/27/03	Meeting with Harney County Court regarding management actions.
4/2/03	Meeting with Harney County Court and City of Burns regarding management actions.
4/9-11/03	SMAC meeting, Hines, Oregon.
4/16/03	Meeting with Harney County Court regarding management actions.
4/21/03	Letter to SEORAC notifying them the Preliminary Draft RMP would be available the first week in May.
4/23/03	Conference call with State Office Staff.
4/30/03	Preliminary Draft RMP mailed by contractor to SEORAC, SMAC, cooperating agencies, Oregon State Office, and Burns District Office.
5/8-9/03	SMAC meeting, Hines, Oregon
6/5-6/03	SMAC meeting, Hines, Oregon. Comments were provided by City of Burns, Harney County Court, Community Response Team, and Chamber of Commerce regarding Social and Economic Values.
6/17/03	District staff met with Malheur NWR.
6/23/03	District staff met with the ODFW regarding Redband Trout Reserve.

5.2.1 Tribal Participation

Burns Paiute Tribal Council

5.2.2 Agencies and Organizations Contacted or Consulted

City of Hines
City of Burns
Harney County Chamber of Commerce
Harney County Court
Lakeview District Office

Oregon Department of Environmental Quality
Oregon Department of Water Resources
Oregon Department of Fish and Wildlife
Southeast Oregon Resource Advisory Council
Steens Mountain Advisory Council
U.S. Fish and Wildlife Service, Ecological Services
U.S. Fish and Wildlife Service, Malheur National Wildlife Refuge
Vale District Office

5.2.3 Agencies, Organizations, and Individuals on Mailing List

The BLM mailed the public scoping packet to approximately 1,220 agencies, organizations, and individuals. The "Summary of the Analysis of the Management Situation" was mailed to approximately 208 people and the complete AMS was mailed to approximately 64 people. The following is a list of the officials, tribal groups, agencies, and organizations to which a copy of this draft RMP/EIS was sent. The list of individuals on the mailing list is not included.

Elected Officials

U.S. Senator Ron Wyden
U. S. Senator Gordon Smith
Congressman Greg Walden
Governor Ted Kulongoski
Harney County Judge Steve Grasty

Tribal Groups

Burns Paiute Tribal Council
Confederated Tribes of the Warm Springs Reservation
Fort McDermitt Tribal Council
Klamath Tribes

Agencies

U.S. Fish and Wildlife Service, Ecological Services, Central Oregon Field Office
U.S. Fish and Wildlife Service, Malheur National Wildlife Refuge
U.S. Fish and Wildlife Service, Oregon State Office
Oregon Department of Fish and Wildlife
U.S. Environmental Protection Agency
Oregon Department of Transportation
Department of Land Conservation and Development
Federal Energy Regulatory Commission
Fremont National Forest
Harney County Chamber of Commerce
Harney County Library
Harney County Soil and Water Conservation District
Harney County Planning Department
National Landscape Conservation System
Oregon Department of Geology and Mineral Industries
Oregon Division of State Lands
Oregon State Parks Department
Oregon Natural Resources Council
Animal and Plant Health Inspection Service
U.S. Forest Service, Emigrant Ranger Station
U.S. Forest Service, Malheur National Forest
Eastern Oregon Agricultural Research Center
Natural Resources Conservation Service
Bonneville Power Administration

BLM - Coos Bay District Office
 BLM - Lakeview District Office
 BLM - Medford District Office
 BLM - Oregon State Office
 BLM - Prineville District Office
 BLM - Salem District Office
 BLM - Eugene District Office
 BLM - Roseburg District Office
 BLM - Spokane District Office
 BLM - Vale District Office
 Bureau of Reclamation

Organizations

American Alpine Club
 Animal Protection Institute
 Association of Oregon and California Counties
 Central Washington University
 Eastern Oregon Sportsmen Association
 Evergreen State College
 Frenchglen School Board
 Frenchglen Community Club
 The Fund for Animals, Inc.
 Geyser Observation and Study Association
 Harney Electric Cooperative
 High Desert Outfitters
 Hunters for Conservation
 Izaak Walton League
 National Wildlife Federation
 The Nature Conservancy
 Northwest Coalition for Alternative to Pesticides
 Oregon Cattlemen's Association
 Oregon Equestrian Trails
 Oregon Farm Bureau
 Oregon Guides and Packers
 Oregon Llamas
 Oregon Natural Desert Association
 Oregon Grotto
 Oregon Hunter's Association
 Oregon State Snowmobile Association, Inc.
 Pacific Rivers Council
 Portland State University
 Sierra Club
 Steens Mountain Club
 University of Oregon Library
 Waterwatch
 Water for Life
 Western Lands Exchange Project
 WHOA
 Wild Wilderness
 Wilderness Society
 Wilderness Watch
 Wildlife Management Institute

5.3 List of Preparers

5.3.1 Bureau of Land Management EIS Team

<u>Team Member</u>	<u>Resource</u>
Gary Foulkes*	Project Lead, Environmental Justice, Air Quality, Socioeconomics
Rick Hall*	ACECs, Special Status Species - Flora, Vegetation/Rangelands/Grazing Management
Doug Linn	Soils and Biological Crusts
Scott Thomas	Cultural, Paleontology, Native American Concerns
Lesley Richman	Noxious Weeds
Jeff Rose	Woodlands/WJMA, Fire Management
Carolyn Freeborn*	Management Representative, Grazing Management
Cam Swisher	Grazing Management
Dave Ward	Grazing Management
Bill Anderson	Grazing Management
Manny Berain	Grazing Management
Jon Collins*	Wild and Scenic Rivers
John Neeling*	Wilderness
Evelyn Treiman*	Recreation, OHVs,, Visual Resources, Wilderness Study Areas, National Trails
Mark Sherbourne	Transportation
Skip Renschler	Utility/Communication Corridors, Cadastral/Land/Realty, Renewable Energy
Matt Obradovich*	Wildlife, Special Status Species - Fauna, Wetlands, Animal Damage Control, Wild Horses, Riparian Areas
Darren Brumback*	Fisheries, Redband Trout Reserve, Water Resources, Riparian Areas
Dean Bolstad	Wild Horses
Cindy Weston	Fisheries, Water Resources, Riparian Areas
Kelly Hazen*	Geographical Information System
Pam Keller	Geographical Information System
Rhonda Karges*	SMAC/Management Support
Terri Geisler	Minerals/Geology, Renewable Energy
*Core Team Member	

5.3.2 Enviroscientists, Inc. RMP/EIS Team

<u>Team Member</u>	<u>Resource</u>
Richard DeLong	Project Manager, Air Quality, Environmental Justice
Opal Adams	Assistant Project Manager, Energy and Minerals, Geology, Paleontology, Visual Resource Management
Jennifer Thies	Project Coordinator, Lands and Realty, Transportation and Roads, Off-Highway Vehicles, Social and Economic Values, Recreation, Wilderness, Wilderness Study Areas
Adrian Juncosa	Grazing, Rangelands, Fire
Susan Fox	Wildlife, Wild Horses and Burros, Special Status Animal Species
Matt Kiese	Fisheries, Special Status Fish Species, Redband Trout Reserve, Wild and Scenic Rivers, Water Resources
Joan Reynolds	Vegetation, Soils, Special Status Plant Species, Noxious Weeds, Riparian Areas/Wetlands
Dr. Robert Vierra	Cultural Resources, Native American Traditional Values

5.3.3 Cooperating Agencies

USFWS, Ecological Services
USFWS, Malheur National Wildlife Refuge
Burns Paiute Tribe
Oregon Department of Environmental Quality
Oregon Department of Fish and Wildlife
Harney County Court
City of Burns
City of Hines

6 GLOSSARY, REFERENCES, AND INDEX

6.1 Glossary

A

Adaptive Management – A type of natural resource management in which decisions are made as part of an ongoing process. Adaptive management involves testing, monitoring, evaluation, and incorporating new knowledge into management approaches based on scientific findings and the needs of society. Results are used to modify management policy.

Advanced ecological status –

Allotment – A specific portion of public land allocated for livestock grazing, typically with identifiable or fenced boundaries and permitted for a specified number of livestock.

Allotment (grazing) – Area designated for the use of a certain number and kind of livestock for a prescribed period of time.

Allotment Management Plan (AMP) – A plan for managing livestock grazing on specified public land.

Analysis of the Management Situation (AMS) – Step 4 of the BLM's land use planning project. It is a comprehensive documentation of the present conditions of the resources, current management guidance, and opportunities for change.

Animal unit – One cow, one cow/calf pair, one horse, or five sheep.

Animal Unit Month (AUM) – The forage needed to support one cow, one cow/calf pair, one horse, or five sheep for one month. Approximately 800 pounds of forage.

Appropriate Management Level (AML) – An established population range that represents the number of animals that the designated HMA can sustain and that results in a thriving natural ecological balance with other uses and resources common to the area and avoids deterioration of the public range.

Area of Critical Environmental Concern (ACEC) – Area where special management attention is required to protect and prevent irreparable damage to important historic, cultural, or scenic values, fish and wildlife resources, or other natural systems or processes, or to protect humans from natural hazards.

Avoidance Areas – Areas with sensitive resource values where rights-of-way and Land Use Authorizations would be strongly discouraged. Authorizations made in avoidance areas would have to be compatible with the purpose for which the area was designated and not be otherwise feasible outside the avoidance area.

B

Basalt – A dark, heavy, fine-grained silica-poor igneous rock composed largely of iron and magnesium minerals and calcium-rich plagioclase feldspars.

Basin (river) – In general, the area of land that drains water, sediment, and dissolved materials to a common point along a stream channel. River basins are composed of large river systems. In this EIS, the term refers to the equivalent of a third field hydrologic unit code, an area of about nine million acres, such as the Salmon River basin. It also is used to refer in general to the Interior Columbia River Basin.

Best Management Practices (BMPs) – A set of practices which, when applied during implementation of management actions, ensures that negative impacts to natural resources are minimized. BMPs are applied based on site-specific evaluation and represent the most effective and practical means to achieve management goals for a given site.

Biological Soil Crust - Lichens, mosses, green algae, fungi, cyanobacteria, and bacteria growing on or just below the surface of soils.

Bureau of Land Management (BLM) – Government agency with the mandate to manage federal lands under its jurisdiction for multiple uses.

BLM assessment species – Plant and animal species on List 2 of the Oregon Natural Heritage Data Base, or those species on the Oregon List of Sensitive Wildlife Species (OAR 635-100-040) that are identified in BLM Instruction Memo OR-91-57 and are not included as federal candidate, state listed, or BLM sensitive species.

BLM sensitive species – Plant or animal species eligible for federal listed, federal candidate, state listed, or state candidate (plant) status, or on List 1 in the Oregon Natural Heritage Data Base, or approved for this category by the BLM State Director.

BLM tracking species – Plant and animal species on List 3 and 4 of the Oregon Natural Heritage Data Base, or those species on the Oregon List of Sensitive Wildlife Species (OAR 635-100-040) that are identified in BLM Instruction Memo OR-91-57 and are not included as federal candidate, state listed, BLM sensitive, or BLM assessment species.

C

Candidate Species – Any species included in the Federal Register Notice of Review that are being considered for listing as threatened or endangered by the US Fish and Wildlife Service.

Canopy – In a forest, the branches from the uppermost layer of trees; on rangeland, the vertical projection downward of the aerial portion of vegetation.

Classification – A process required by law for determining the suitability of public lands for certain types of disposal or lease under the public land laws or for retention in public ownership.

Climax vegetation – The stabilized plant community on a particular site. The plant cover reproduces itself and does not change as long as the environment remains the same.

Colluvium – Soil material, rock fragments, or both, moved by creep, slide, or local wash and deposited at the base of steep slopes.

Commodities – Goods and services produced by industries.

Community – A group of species of plants and/or animals living and interacting at a particular time and place; a group of people residing in the same place and under the same government.

Consultation – (1) An active, affirmative process that (a) identifies issues and seeks input from appropriate American Indian governments, community groups, and individuals; and (b) considers their interests as a necessary and integral part of the BLM's and Forest Service's decision-making process. (2) The Federal Government has a legal obligation to consult with American Indian Tribes. This legal obligation is based in such laws as the Native American Graves Protection and Repatriation Act, the American Indian Religious Freedom Act, and numerous other Executive Orders and statutes. This legal responsibility is, through consultation, to consider Indian interests and account for those interests in the decision. (3) The term also refers to a requirement under Section 7 of the ESA for federal agencies to consult with the U.S. Fish and Wildlife Service and/or National Marine Fisheries Service with regard to federal actions that may affect listed threatened and endangered species or critical habitat.

Corridor (landscape) – Landscape elements that connect similar patches of habitat through an area with different characteristics. For example, streamside vegetation may create a corridor of willows and hardwoods between meadows or through a forest.

Custodial management – Management of a group of similar allotments with minimal expenditure of appropriated funds to continue protecting existing resource values.

D

Deep soil – A soil that is 40 to 60 inches deep over bedrock or to other material that restricts the penetration of plant roots.

Developed recreation – Recreation that requires facilities which in turn result in concentrated use of an area; for example, a campground.

Dispersed recreation – Recreation that does not occur in a developed recreation site; for example, hunting or backpacking.

Disturbance – Refers to events that alter the structure, composition, or function of terrestrial or aquatic habitats. Natural disturbances include, among others, drought, floods, wind, fires, wildlife grazing, insects, and pathogens. Human-caused disturbances include actions such as timber harvest, livestock grazing, roads, and the introduction of exotic species.

E

Ecological Site Inventory (ESI) – The basic inventory of present and potential vegetation on BLM rangelands. Ecological sites are differentiated on the basis of the kind, proportion, or amount of plant species.

Ecological status – The present state of vegetation of a range site in relation to the potential natural community for that site. Four classes are used to express the degree to which the production or composition of the present plant community reflects that of the potential natural community (climax):

Ecological Status (Seral stage)

Percent of Community in Climax Condition:

Potential natural community	76-100
Late seral	51-75
Mid-seral	26-50
Early seral	0-25

Ecosystem – A complete, interacting system of living organisms and the land and water that make up their environment; the home places of all living things, including humans.

Ecosystem Management – The use of a "whole-landscape" approach to achieve multiple-use management of public lands by blending the needs of people and environmental values in such a way that these lands represent diverse, healthy, productive, and sustainable ecosystems.

Endangered Species – Any species defined under the Endangered Species Act (ESA) as being in danger of extinction throughout all or a significant portion of its range. Listings are published in the Federal Register.

Environmental Assessment (EA) – One type of document prepared by federal agencies in compliance with the National Environmental Policy Act (NEPA) which portrays the environmental consequences of proposed federal actions which are not expected to have significant impacts on the human environment.

Environmental Impact Statement (EIS) – One type of document prepared by federal agencies in compliance with the National Environmental Policy Act (NEPA) which portrays the environmental consequences of proposed major federal actions expected to have significant impacts on the human environment.

Ephemeral stream – A stream, or reach of a stream, that flows only in direct response to precipitation. It receives no continuous supply from melting snow or other source, and its channel is above the water table at all times.

Exclusion Areas – Areas with sensitive resource values where rights-of-way and land use authorizations would not be authorized.

Existing Management Situation – A component of the Analysis of the Management Situation; a description of the existing management direction government resource management programs of a Planning Area.

Extensive Recreation Management Area (ERMA) – Area where recreation is unstructured and dispersed with minimal regulatory constraints and where minimal recreation-related investments are required.

F

Federal Land Policy and Management Act of 1976 (FLPMA) – Law mandating that the BLM manage lands under its jurisdiction for multiple uses. Establishes guidelines for its administration; and provides for the management, protection, development, and enhancement of the public lands, among other provisions.

Fire Management Plan (FMP) – A strategic plan that defines a program to manage wildland and prescribed fires and documents the Fire Management Program in the approved land use plan. The plan is supplemented by operational procedures such as preparedness plans, preplanned dispatch plans, prescribed fire plans and prevention plans.

Fire regime – The characteristics of fire in a given ecosystem, such as the frequency, predictability, intensity, and seasonality of fire.

Fire return interval – The number of years between fire events for a specified area.

Flood plain – A nearly level alluvial plain that borders a stream and is subject to inundation under flood-stage conditions unless protected artificially. It is usually a constructional landform built of sediment deposited during overflow and lateral migration of the stream.

Forb – Any herbaceous plant not a grass or a grasslike species. Broad-leafed plants; includes plants that commonly are called weeds or wildflowers.

Functional at Risk (FAR) - Riparian/Wetland areas that are in functional condition but an existing soil, water, or vegetation attribute makes them susceptible to degradation.

G

Geographic Information System (GIS) – An information processing technology to input, store, manipulate, analyze, and display data; a system of computer maps with corresponding site-specific information that can be combined electronically to provide reports and maps.

H

Herd Area – A geographic area identified as having provided habitat for a wild horse herd in 1971.

Herd Management Area (HMA) – A geographic area identified in a Management Framework Plan or Resource Management Plan for the long-term management of a wild horse herd.

Herd Management Area Plan – A plan that prescribes measures for the protection, management, and control of wild horses and their habitat on one or more HMAs, in conformance with decisions made in approved Management Framework or Resource Management Plans.

Hydrologic Unit Code (HUC) – A coding system developed by the U.S. Geological Service to map geographic boundaries of watersheds of various sizes.

Hydrothermal deposit – A mineral deposit formed by hot mineral-laden fluids.

I

Incident commander – Individual responsible for the management of all incident (fire) operations.

Intermittent stream – A stream, or reach of a stream, that flows for prolonged periods only when it receives groundwater discharge or long, continued contributions from melting snow or other surface and shallow subsurface sources.

Interior Columbia River Basin Ecosystem Management Project (ICBEMP) – An on-going project examining the effects (on a large regional scale) of past and present land use activities on the Interior Columbia River Basin ecosystem and a small part of the Great Basin ecosystem.

Interior drainage – Streams with no outlet to the sea.

J

K

Known Geothermal Resource Area – "An area in which the geology, nearby discoveries, competitive interest, or other indicia would, in the opinion of the Secretary, engender the belief in men who are experienced in the subject matter that the prospect for extraction of geothermal steam or associated geothermal resources are good enough to warrant expenditures or money for that purpose" (43 CFR 3200.0-5(k)).

L

Land Use Authorizations – Those realty related authorizations such as leases, permits, and easements authorized under 43CFR2920 and the R&PP Act. Land use authorizations also include any other authorizations with the exception of rights-of-way (43CFR2800) and Special Recreation Permits (proposed in 43CFR2930) generally contained in 43CFR2000 series of regulations.

Leasable Minerals – Minerals that may be leased to private interests by the federal government including oil, gas, geothermal, coal, and sodium compounds.

Locatable Minerals – Minerals subject to exploration, development, and disposal by staking mining claims as authorized by the Mining Law of 1872, as amended. This includes deposits of gold, silver, and other uncommon minerals not subject to lease or sale.

M

Management Concern – Procedures or land-use allocations that do not constitute issues but which are recognized, through the RMP/EIS preparation process, as needing modification or decision regarding management direction.

Management Direction – A statement of goals and objectives, management prescriptions, and associated standards and guidelines for attaining them.

Management Framework Plan (MFP) – BLM land use plan, predecessor to the RMP. Older generation of land use plans developed by the BLM. This generation of planning has been replaced by the Resource Management Plan (RMP).

Management Opportunities – A component of the Analysis of the Management Situation; actions or management directions that could be taken to resolve issues or management concerns.

Map unit – The basic system of description in a soil survey and delineation on a soil map. Can vary in level of detail.

Medium textured soil - Very fine sandy loam, loam, silt loam, or silt.

Mechanized vehicle - Any vehicle, device, or contrivance that has moving parts for moving people or material in or over land, water, snow, or air. This includes, but is not limited to, sailboats, sailboards, hang gliders, parachutes, bicycles, game carriers, carts, and wagons. It does not include wheelchairs, horses, or other pack stock, skis, snowshoes, nonmotorized river craft, sleds, travois, or similar devices without moving parts.

Migration corridor – The habitat pathway an animal uses to move from one place to another.

Mineral Estate – Refers to the ownership of minerals at or beneath the surface of the land.

Mitigation – Measures designed to counteract environmental impacts or to make impacts less severe.

Monitoring – The periodic and systematic collection of resource data to measure progress toward achieving objectives.

Monitoring and Evaluation – The collection and analysis of data to evaluate the progress and effectiveness of on-the-ground actions in meeting resource management goals and objectives.

Multiple Use – Management of public land and its resources to best meet various present and future needs of the American people. This means coordinated management of resources and uses to assure the long-term health of the ecosystem.

N

National Environmental Policy Act of 1969 (NEPA) – Law requiring all federal agencies to evaluate the impacts of proposed major federal actions with respect to their significance on the human environment.

National Wildlife Refuge (NWR) – An area administered by the U.S. Fish and Wildlife Service for the purpose of managing certain fish or wildlife species.

Naturalness (a primary wilderness value) – An area that generally appears to have been affected primarily by the forces of nature with the imprint of people's work substantially unnoticeable.

Noxious Weed – A plant specified by law as being especially undesirable, troublesome, and difficult to control. A plant species designated by federal or state law as generally possessing one or more of the following characteristics: aggressive and difficult to manage; parasitic; a carrier or host of serious insects or disease; or nonnative, new, or not common to the United States. According to the Federal Noxious Weed Act (PL 93-639), a noxious weed is one that causes disease or has other adverse effects on man or his environment and therefore is detrimental to the agriculture and commerce of the United States and to the public health.

O

Objectives (management) – In this EIS, refers to indicators used to measure progress toward attainment of goals. They address short- and long-term actions taken to meet goals and the desired ranges of future conditions.

Off-Highway Vehicle (OHV) – Any motorized vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain, excluding any nonamphibious registered motorboat.

P

Perennial – A plant that lives for three or more years.

Perennial stream – A stream in which water is present during all seasons of the year.

Permeability – The quality of the soil that enables water to move downward through the profile, measured as the number of inches per hour that water moves downward through the saturated soil.

pH value – A numerical designation of acidity and alkalinity in soil. (See Reaction, soil)

Playa Lake – A shallow lake that is seasonally dry. Soils on the lake bottom are usually quite alkaline.

Pluvial – Referring to a period of greater rainfall.

Pluvial Lake – A lake formed during a period of exceptionally high rainfall (e.g., a time of glacial advance during the Pleistocene epoch) and now either extinct or existing as a remnant, such as Lake Bonneville.

Point source pollution – Pollution that comes from a single identifiable source such as a smokestack, a sewer, or a pipe.

Preferred Alternative or Plan – The alternative plan, in the Draft EIS, which the agency has initially selected that best fulfills the agency's statutory mission and responsibilities and offers the most acceptable resolution of the planning issues and management concerns.

Prescribed burning – Controlled application of fire to wildland fuels in either their natural or modified state, under specified environmental conditions which allow the fire to be confined to a predetermined area and at the same time to produce the fire line intensity and rate of spread required to attain planned resource management objectives.

Prescribed fire – Any fire ignited by management actions to meet specific objectives. A written and approved prescribed fire plan must exist, and NEPA requirements must be met prior to ignition. The introduction of fire to an area under regulated conditions for specific management purposes (usually vegetation manipulation).

Prescribed Natural Fire - A naturally ignited fire that is managed for resource benefits. Currently called Wildland Fire Use.

Prescription – Written statement defining objectives to be attained, as well measurable criteria which guide the selection of appropriate management actions. Prescription criteria may include safety, economic, public health, environmental, geographic, administrative, social or legal considerations under which the fire will be allowed to burn.

Primary wilderness values – The primary or key wilderness values described in the Wilderness Act by which WSAs and wildernesses are managed to protect and enhance the wilderness resource. Values include roadlessness, naturalness, solitude, primitive and unconfined recreation, and size.

Primitive and unconfined recreation (a primary wilderness value) – nonmotorized and undeveloped types of outdoor recreation activities. Refers to wilderness recreation opportunities such as nature study, hiking, photography, backpacking, fishing, hunting, and other related activities. Does not include the use of motorized vehicles, bicycles, or other mechanized means of travel.

Proper Functioning Condition (PFC) – Riparian-wetland areas achieve Proper Functioning Condition when adequate vegetation, landform, or large woody debris is present to dissipate stream energy associated with high water flows. This thereby reduces erosion and improves water quality; filters sediment, captures bedload, and aids floodplain development; improves floodwater retention and groundwater recharge; develops root masses that stabilize streambanks against cutting action; develops diverse ponding and channel characteristics to provide habitat and water depth, duration, and temperature necessary for fish production, waterfowl breeding, and other uses; and supports greater biodiversity. The functioning condition of riparian-wetland areas is a result of the interaction among geology, soil, water, and vegetation.

Public lands – Any land or interest in land owned by the United States and administered by the Secretary of the Interior through the BLM.

Q

R

Rangeland – Land on which the potential natural vegetation is predominantly grasses, grasslike plants, forbs, or shrubs suitable for grazing or browsing. It includes natural grasslands, savannas, many wetlands, some deserts, tundras, and areas that support certain forb and shrub communities.

Range site – An area of rangeland where climate, soil, and relief are sufficiently uniform to produce a distinct natural plant community. A range site is the product of all the environmental factors responsible for its development. It is typified by an association of species that differ from those on other range sites in kind or proportion of species or total production.

Record of Decision (ROD) – An official document in which a deciding official states the alternative that will be implemented from a prepared Final EIS.

Recreation site – An area where management actions are required to provide a specific recreation setting and activity opportunities, to protect resource values, provide public visitor safety and health, and/or to meet public recreational use demands and recreation partnership commitments. A site may or may not have permanent facilities.

Recreational river – A river or section of a river that is readily accessible by road or railroad. It may have had some development along the shorelines and may have undergone some impoundments or diversions in the past.

Research Natural Area (RNA) – An area where natural processes predominate and which is preserved for research and education. Under current BLM policy, these areas must meet the relevance and importance criteria of ACECs and are designated as ACECs. An area of significant scientific interest that is designated to protect its resource values for scientific research and study.

Resource advisor – Resource specialist responsible to the incident commander for gathering and analyzing information concerning values-at-risk that may be impacted by the fire or fire suppression activities.

Resource Area – The "on-the-ground" management unit of the BLM comprised of BLM administered land within a specific geographic area.

Resource Area Profile – A component of the Analysis of the Management Situation; a description of the current condition, amount, location, use, and demands of the natural resources in a Planning Area.

Resource Management Plan (RMP) – Current generation of land use plans developed by the BLM under the Federal Land Policy and Management Act. Replaces the older generation Management Framework Plans. Provides long-term (up to 20 years) direction for the management of a particular area of land and its resources, usually corresponding to a BLM resource area.

Right-of-way (ROW) – A permit or an easement which authorizes the use of public land for certain specified purposes, commonly for pipelines, roads, telephone lines, electric lines, reservoirs, etc; also, the reference to the land covered by such an easement or permit.

Right-of-way corridor – A parcel of land that has been identified by law, Secretarial Order, through a land use plan, or by other management decision as being the preferred location for existing and future right-of-way grants and suitable to accommodate one type of right-of-way or one or more rights-of-way which are similar, identical or compatible.

Riparian area – Area with distinctive soil and vegetation between a stream or other body of water and the adjacent upland; includes wetlands and those portions of floodplains and valley bottoms that support riparian vegetation.

Risk assessment – Assessing the chance of fire starting, natural or human-caused, and its potential risk to life, resources and property.

S

Saleable Minerals – High volume, low value mineral resources including common varieties of rock, clay, decorative stone, sand, gravel, and cinder.

Scenic river – A river or section of a river that is free of impoundments and whose shorelines are largely undeveloped but accessible in places by roads.

Scoping – The process of identifying the range of consideration, issues, management concerns, preliminary alternatives, and other components of an environmental impact statement or land-use planning document. It involves both internal and external, or public, involvement.

Section 202 lands – Lands being considered for wilderness designation under Section 202 of the Federal Land Policy and Management Act of 1976.

Sensitive species – Species identified by a Forest Service regional forester or BLM state director for which population viability is a concern either (a) because of significant current or predicted downward trends in population numbers or density, or (b) because of significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution.

Seral – Refers to the sequence of transitional plant communities during succession. Early-seral refers to plants that are present soon after a disturbance or at the beginning of a new successional process (such as seedling or sapling growth stages in a forest); mid-seral in a forest would refer to pole or medium sawtimber growth stages; late- or old-seral refers to plants present during a later stage of plant community succession (such as mature and old forest stages).

Seral stage – The developmental phase of a forest stand or rangeland with characteristic structure and plant species composition. The rated departure of a plant community from a described Potential Natural Community (PNC) for a specific ecological site. Low-seral stage is an existing plant community which is defined as 0-25 percent comparability to the defined PNC; Mid-seral stage is an existing plant community which has 26-50 percent comparability to the PNC; Late seral stage is 51-75 percent comparable to the PNC; PNC is an existing plant community with 76-100 percent comparability to the defined PNC.

Slope – The inclination of the land surface from the horizontal. Percentage of slope is the vertical distance divided by horizontal distance, then multiplied by 100. Thus, a slope of 20 percent is a drop of 20 feet in 100 feet of horizontal distance.

Soil association – A group of soils geographically associated in a characteristic repeating pattern and defined and delineated as a single soil map unit.

Soil classification – The systematic arrangement of soils into groups or categories on the basis of their characteristics.

Soil compaction – An increase in soil bulk density of 15 percent or more from the undisturbed level.

Soil complex – A map unit of two or more kinds of soils in such an intricate pattern or so small in area that it is not practical to map them separately at the selected scale of mapping.

Soil Horizon - A layer of soil, approximately parallel to the surface, having distinct characteristics produced by soil-forming processes.

Soil profile – A vertical section of the soil extending through all its horizons and into the parent material.

Soil series - A nationally defined soil type set apart on distinct soil properties that affect use and management. In a soil survey, this includes a group of soils having profiles that are almost alike, except for differences in texture of the surface layer or of the underlying material. All the soils of a series have horizons that are similar in composition, thickness, and arrangement.

Soil survey – A field investigation resulting in a soil map showing the geographic distribution of various kinds of soil and an accompanying report that describes the soil types and interprets the findings.

Soil texture – The relative proportions of sand, silt, and clay particles in a mass of soil.

Solitude (a primary wilderness value) – The state of being alone or remote from habitations; a lonely, unfrequented, or secluded place. The intent is to evaluate the opportunity for solitude in comparison to habitations of people.

Special Recreation Management Area (SRMA) – An area where recreation is the principal management objective, where intensive recreation management is needed, and where more than minimal recreation-related investments are required.

Special Status species – Plant or animal species known or suspected to be limited in distribution, rare or uncommon within a specific area, and/or vulnerable to activities which may affect their survival. Lists of Special Status species are prepared by knowledgeable specialists through the State of Oregon; the BLM prepares a list of state sensitive species predominantly based on the list prepared biennially by the Oregon Natural Heritage Database Program (ONHP).

Stand – A community of trees occupying a specific area and sufficiently uniform in species, age, spatial arrangement and condition as to be distinguishable from trees on surrounding lands.

State Implementation Plan (SIP) – A document prepared by each state describing existing air quality conditions and measures that will be taken to attain and maintain national ambient air quality standards.

State Listed Species – Any plant or animal species listed by the State of Oregon as threatened or endangered within the state under ORS 496.004, ORS 498.026, or ORS 564.040.

Step-down – The process of applying broad-scale science findings and land use decisions to site-specific areas using a hierarchical approach (subbasin review) of understanding current resource conditions, risks, and opportunities.

Stream channel – The hollow bed where a natural stream of surface water flows or may flow; the deepest or central part of the bed, formed by the main current and covered more or less continuously by water.

Subalpine – A terrestrial community that is generally found in harsher environments than the montane terrestrial community. Subalpine communities are generally colder than montane and support a unique clustering of wildlife species.

Subbasin review – An interagency collaborative consideration of resources, resource management issues, and management recommendations for one or more subbasins or watershed drainages approximately 800,000 to 1,000,000 acres in size, equivalent to a 4th-field Hydrologic Unit Code (HUC).

Subwatershed – A drainage area of approximately 20,000 acres, equivalent to a 6th-field Hydrologic Unit Code. Hierarchically, subwatersheds (6th-field HUC) are contained within a watershed (5th-field HUC), which in turn is contained within a subbasin (4th-field HUC).

Succession – A predictable process of changes in structure and composition of plant and animal communities over time. Conditions of the prior plant community or successional stage create conditions that are favorable for the establishment of the next stage. The different stages in succession are often referred to as "seral stages." (See Seral.)

Sustainability – (1) meeting the needs of the present without compromising the abilities of future generations to meet their needs; emphasizing and maintaining the underlying ecological processes that ensure long-term productivity of goods, services, and values without impairing productivity of the land. (2) In commodity production, refers to the yield of a natural resource that can be produced continually at a given intensity of management.

Supplemental wilderness values – Includes ecological (e.g., vegetation, wildlife, and overall biological/botanical processes and values associated with the natural environment), geological, scientific, educational, scenic, and historic values. When present, they can enhance primary wilderness values, but are not mandated by Congress.

Sustained yield – Maintenance of an annual or regular periodic output of a renewable resource from public land consistent with the principles of multiple use.

T

Terrestrial communities – Groups of cover types with similar moisture and temperature regimes, elevational gradients, structures, and used by vertebrate wildlife species.

Threatened Species – Any plant or animal species defined under the Endangered Species Act as likely to become endangered within the foreseeable future throughout all or a significant portion of its range. Listings are published in the Federal Register.

Trend – The direction of change in ecological status observed over time. Trend is described as toward or away from the Potential Natural Community, or as not apparent.

U

Upland (geology) – Land at a higher elevation, in general, than the alluvial plain or stream terrace; land above the lowlands along streams.

Utilization – The proportion or degree of the current year's forage production that is consumed or destroyed by animals (including insects). Utilization may refer either to a single plant species, a group of species, or to the vegetation as a whole. Utilization is synonymous with use.

V

Values-at-risk – Any or all natural resources, improvements or other values which may be jeopardized if a fire occurs (value-at-risk, risk of resource values).

Visual Resource Management (VRM) Objectives

Class I - The objective of this classification is to preserve the existing character of the landscape. This class provides for natural ecological changes and limited management activity. The level of change should be very low and must not attract attention. Class I is assigned to those areas where a management decision has been made to preserve a natural landscape.

Class II-The objective of this classification is to retain the existing character of the landscape. The level of change to landscape characteristics should be low. Management activities may be seen but should not attract the attention of a

casual observer. Any changes must conform to the basic elements of form, line, color, and texture found in the predominant natural features of the characteristic landscape. This class represents the minimum level of VRM for WSAs.

Class III-The objective of Class III is to partially retain the existing character of the landscape. Moderate levels of change are acceptable. Management activities may attract attention but should not dominate the view of a casual observer. Changes should conform to the basic elements of the predominant natural features of the characteristic landscape.

Class IV-The objective of Class IV is to provide for management activities that require major modification of the landscape. These management activities may dominate the view and become the focus of viewer attention; however, every effort should be made to minimize the impact of these projects by carefully locating activities, minimizing disturbance, and designing the projects to conform to the characteristic landscape.

W

Wilderness Study Area Interim Management Policy (WSA IMP) – Policy for managing public lands under wilderness review. Section 603(c) of the FLPMA states: "During the period of review of such areas and until Congress has determined otherwise, the Secretary shall continue to manage such lands according to his authority under this Act and other applicable laws in a manner so as not to impair the suitability of such areas for preservation as wilderness, subject, however, to the continuation of existing mining and grazing uses and mineral leasing in the manner and degree in which the same was being conducted on the date of approval of this Act: "Provided, that, in managing the public lands the Secretary shall by regulation or otherwise take any action required to prevent unnecessary or undue degradation of the lands and their resources or to afford environmental protection."

Wild River - A river or section of a river that is free of impoundments and generally inaccessible except by trail, with watersheds and shorelines essentially primitive and waters unpolluted.

Wildland Fire - A general category of lightning or human ignited fire in natural vegetation. Includes wildfires, prescribed fires, and fire managed for resource benefits.

Wildland Fire Use - An unplanned ignition that is managed for resource benefits. Formally called Prescribed Natural Fire.

Withdrawal – Withholding an area of federal land from settlement, sale, location, or entry, under some or all of the general land laws, for the purpose of limiting activities under those laws in order to maintain other public values in the area or reserving the area for a particular public purpose or program; or transferring jurisdiction over an area of federal land, other than "property" governed by the Federal Property and Administrative Services Act, as amended (40U.S.C.472) from one department, bureau, or agency to another department, bureau, or agency.

6.2 References

- Adams, A.W. 1975. *A Brief History of Juniper and Shrub Populations in Southern Oregon*. Resources Division, Oregon Wildlife Commission Research Report No. 6, Pittman Robertson Project W-53-R.
- Aikens, C. Melvin. 1993. *Archaeology of Oregon*. U.S. Department of the Interior, Bureau of Land Management, Portland, Oregon.
- Allendorf, F.W. 1975. *Genetic Variability in a Species Possessing Extensive Gene Duplication: Genetic Interpretation of Duplicate Loci and Examination of Genetic Variation in Populations of Rainbow Trout*. Ph.D. Dissertation, University of Washington, Seattle, Washington.
- Allendorf, F. and F. Utter. 1979. *Population Genetics*. Fish Physiology, Volume 8: 407-454. Academic Press, New York, New York.
- Allison, I. and C. Bond. 1983. *Identity and Probable Age of Salmonids from Surface Deposits at Fossil Lake, Oregon*. Copeia. 1983, 2: 563-564.
- Ashley, G.A., D. English, and H.K. Cordell. 1993. *Economic Effects of the Steens Mountain Recreation Lands on Local Economics (Draft)*. Outdoor Recreation and Wilderness Assessment Group, Southeastern Forest Experiment Station, U.S. Department of Agriculture, Forest Service, Athens, Georgia.
- Bailey, R.M. and C.E. Bond. 1963. *Four Species of Freshwater Sculpins, Genus Cottus, From Western North America*. Occasional Paper of the Museum of Zoology, University of Michigan. 634:1-27.
- Bartos, D.L. and W.F. Mueggler. 1981. *Early Succession in Aspen Communities Following Fires in Western Wyoming*. Journal of Range Management, 34:315-318.
- Bartos, D.L. and R.B. Campbell. 1998. *Decline of Quaking Aspen in the Interior West - Examples from Utah*. Rangelands, 20:17-25.
- Bates, R.L. and J.A. Jackson. 1987. *Glossary of Geology*, 3rd ed. American Geological Institute, Alexandria, Virginia. 788 pp.
- Beckman, S.D. 1995. *National Register Nomination for the Birch Creek Ranch Rural Historic Landscape*. Manuscript on file at the BLM Vale District Office, Vale, Oregon.
- Behnke, R.J. 1992. *Native Trout of Western North America*. American Fisheries Society Symposium 17. Bethesda, Maryland.
- Benke, A.C., R.L. Henry III, D.M. Gillespie, and R.J. Hunter. 1985. *Importance of Snag Habitat for Animal Production in Southeastern Streams*. Fisheries 10: 8-13.
- Belnap. 2003. <http://www.soilcrust.org/> and <http://www.soilcrust.org/crust101.htm>. USGS Canyonlands Field Station, Southwest Biological Science Center, 2290 SW Resource Blvd., Moab, UT 84532 (435)719-2331
- Benedict, E.M. approx. 1978. *Self-guided tour of Diamond Craters, Oregon's Geologic Gem*. U.S. Department of the Interior, Bureau of Land Management brochure.
- Berg, R.J. 1987. *Genetic Characteristics of an Enigma: What is a Redband Trout*. Chapter 4 in Evolutionary Genetics of Rainbow Trout. Ph.D. Thesis. University of California, Davis, California.
- Bills, F.T. 1977. *Taxonomic Status of the Isolated Populations of Tui Chub Referred to Gila bicolor oregonensis*. Master's Thesis, Oregon State University. Corvallis, Oregon.
- Bond, C.E. 1974. Fishes. *Endangered Plants and Animals of Oregon*: 1. Special Report No. 205. Oregon State University Agricultural Experiment Station. Corvallis, Oregon.
- Bottom, D.L., Howell, and P.J., Rodgers, J.D. 1985. *The Effects of Stream Alterations on Salmon and Trout Habitat in Oregon*. Oregon Department of Fish and Wildlife. Portland, Oregon.

- Bowers, Wayne, Bill Hosford, Art Oakley, and Carl Bond. 1979. *Wildlife Habitats in Managed Rangelands - The Great Basin of Southeastern Oregon (Native Trout)*. General Technical Report PNW-84. Pacific Northwest Research Station. USDA Forest Service.
- Braun, C.E., T. Britt, and R.O. Wallestad. 1977. *Guidelines for Maintenance of Sage Grouse Habitats*. Wildlife Society Bulletin 5:99-106.
- Bright, Ruth McGilvra. 1979. *Prehistory and History of the Harney Area: A Cultural Resources Overview*. Manuscript on file at the Burns BLM District Office, Hines, Oregon.
- Bright, R.M. 1979. *Harney Area Cultural Resources Class I Inventory: a Cultural Resources Overview*. Manuscript on file at the BLM Burns District Office, Hines, Oregon.
- Brooks, Howard C. 1963. *Quicksilver in Oregon*: Oregon Department of Geology and Mineral Industries Bulletin No. 55, 223 pages and eight plates.
- Buckhouse, J.C. and J.L. Mattison. 1980. *Potential Soil Erosion of Selected Habitat Types in the High Desert Region of Central Oregon*. Journal of Range Management 33:282-285.
- Bunting, S.C., B.M. Kilgore, and C.L. Bushey. 1987. *Guidelines for Prescribed Burning Sagebrush-Grass Rangelands in the Northern Great Basin*. U.S. Department of Agriculture, Forest Service Intermountain Research Station General Technical Report INT-231. Ogden, Utah. 33 pp.
- Burkhardt, J.W. and E.W. Tisdale. 1969. *Nature and Successional Status of Western Juniper Vegetation in Idaho*. Journal of Range Management, 22:264-270.
- Campton, D.E. and J.M. Johnston. 1985. *Electrophoretic Evidence for a Genetic Admixture of Native and Nonnative Rainbow Trout in the Yakima River, Washington*. Transactions of the American Fisheries Society. 114:782-93.
- Connelly, J.W. 1982. *An Ecological Study of Sage Grouse in Southeastern Idaho*. PhD. Dissertation, Washington State University, Pullman, Washington. 84 pp.
- Connelly, J.W. and C.E. Braun. 1997. *Long-Term Changes in Sage Grouse *Centrocercus urophasianus* Populations in Western North America*. Wildlife Biology 3:123-128.
- Connelly, J.W., H.W. Browsers, and R.J. Gates. 1988. *Seasonal Movements of Sage Grouse in Southeastern Idaho*. Journal of Wildlife Management 52:116-122.
- Connelly, J.W., M.A. Schroeder, A.R. Sands, and C.E. Braun. 2000. *Guidelines to Manage Sage Grouse Populations and Their Habitats*. Wildlife Society Bulletin 28(4):967-985.
- Crawford, J.A. and R.S. Lutz. 1985. *Sage Grouse Populations in Oregon, 1941-1983*. Murrelet 66:69-74.
- Crespin, B. 1990. *The Riddle Brothers Ranch Historic District Cultural Resources Management Plan*. Manuscript on file at the BLM Burns District Office, Hines, Oregon.
- Crowe, E. 1996. *Quaking Aspen and Black Cottonwood: Historical and Present-day Distribution in the Blue Mountains*. In: Natural Resources News. Blue Mountains Natural Resource Institute. January 1996.
- Currens, K. *Genetic Variation in Two Populations of Rainbow Trout in the Donner und Blitzen River, Oregon*. Unpublished report on file at Oregon Department of Fish and Wildlife.
- Dambacher, J.M., K.K. Jones, and H.W. Li. 2000. *Assessment of Stream Populations and Habitat of Great Basin Redband Trout*. Completion Report Fish Research Project #99HQAG0047. Oregon Department of Fish and Wildlife, Portland, Oregon.
- Dambacher, J.M., K.K. Jones, and H.W. Li. 2001. *The Distribution and Abundance of Great Basin Redband Trout: an application of variable probability sampling in a 1999 status review*. Oregon Department of Fish and Wildlife.
- Dayton, William. 1960. *Notes on Western Range Forbs*. U.S. Government Printing Office, Agriculture Handbook 161.

Dean Runyon and Associates, SMH Architecture, P.C., Jean Jacques Andre Consultants, Ltd., and Stephen Dow Beckham, PhD. 1994. *Oregon High Desert Interpretive Center Economic Feasibility and Impact Analysis*. Harney County, Oregon.

_____. Oregon Travel Impacts, 1999-2000; Detailed County Estimates. November 2001. Oregon Tourism Commission, Salem, OR.

_____. Oregon Travel Impacts, 1991-2001; Detailed County Estimates. November 2002. Oregon Tourism Commission, Salem, OR.

DeByle, N.V. 1985. Animal Impacts. In *Aspen: Ecology and Management in the Western United States*, eds. N.V. DeByle and R.P. Winokur, 115-123. USDA Forest Service General Technical Report RM-119.

Dennis, W.B. 1902. *A Borax Mine in Southern Oregon*. The Engineering and Mining Journal, April 26, 1902, p. 581.

Eddleman, L.E. 1987. *Establishment of Western Juniper in Central Oregon*. In: Everett, R.L. compiler. Proceedings, Pinyon Juniper Conference Reno, Nevada, January 1986. General Technical Report INT-215, 255-259 U.S. Department of Agriculture, Forest Service Intermountain Research Station, Ogden, Utah.

Eddleman, L.E. 1984. *Ecological Studies on Western Juniper in Central Oregon*. In: Oregon State University Extension Service, Proceedings, Western Juniper Management Short Course, pp. 27-35. Bend, Oregon. October 15-16.

Eddleman, L.E., P.M. Miller, and P.L. Dysart. 1994. *Western Juniper Woodlands of the Pacific Northwest, Science Assessment, Scientific Contract Report*. Interior Columbia Basin Ecosystem Management Project, Science Integration Team, Terrestrial Staff, Range Task Group.

Elmore, W. 1992. *Riparian Responses to Grazing Practices*. In: Naiman, R.G. ed., *Watershed Management: Balancing Sustainability and Environmental Change*, pp. 443-445. Springer Verlag, New York.

Elmore, E. and B. Kauffman. 1993. *Riparian and Watershed Systems: Degradation and Restoration*. Ecological Implications of Livestock Herbivores in the West, pp. 212-231.

Evans, J.G. 1994. *Geology of the Malheur, Jordan, and Andrews Resource Areas, Malheur and Harney Counties, Oregon*. In: Smith, C.L. Mineral and Energy Resources of the BLM Malheur-Jordan Resource Areas, Southeastern Oregon, A1-A43. U.S. Geological Survey.

Fausch, K.D. 1988. *Tests of Competition Between Native and Introduced Salmonids in Streams: What Have We Learned?* Canadian Journal of Fisheries and Aquatic Sciences. 45:2238-2246.

Ferns, M.L. and D.F. Huber. 1984. *Mineral Resources Map of Oregon*. Geological Map Series GMS-36, Scale 1:500,000. Oregon Department of Geology and Mineral Industries.

Ferns, M.L., H.C. Brooks, and J.G. Evans. 1993. *Geologic map of the Vale 30 X 60 Minute Quadrangle, Malheur County, Oregon and Owyhee County, Idaho*. Geological Map Series GMS-77, Scale 1:100,000. Oregon Department of Geology and Mineral Industries.

Ferns, M.L., H.C. Brooks, and J.G. Evans. 1993. *Geologic map of the Mahogany Mountain 30 X 60 Minute Quadrangle, Malheur County, Oregon and Owyhee County, Idaho*. Geological Map Series GMS-78, Scale 1:100,000. Oregon Department of Geology and Mineral Industries.

Fiero, Bill. 1986. *Geology of the Great Basin*. University of Nevada Press, Reno, Nevada. see especially pp. 6-10, 123-138.

Franklin, J.R. and C.T. Dyrness. 1973. *Natural Vegetation of Oregon and Washington*. General Technical Report PNW-8. U.S. Department of Agriculture, Forest Service, Pacific Northwest Research Station, Portland, Oregon.

Frewing-Runyon, L. 1995. *The Importance and Dependency of the Livestock Industry on Federal Lands in the Columbia River Basin*. Unpublished manuscript circulated April 10, 1995, for public review. U.S. Department of Agriculture, Forest Service, and U.S. Department of the Interior, Bureau of Land Management, Interior Columbia River Basin Ecosystem Management Project, Walla Walla, Washington. 59 pp.

- Frewing-Runyon, Leslie. 1999. *Environmental Justice Screening in NEPA Analysis for Oregon, Washington, and Northern California*. Oregon State Office. Portland, Oregon. March 1999. 17 pp.
- Friedman, Irving and Norman Peterson. 1971. *Obsidian Hydration Dating Applied to Dating of Basaltic Volcanic Activity*: Science, vol. 172, p. 1028, June 4, 1971 and reprinted in The Ore Bin, August 1971, vol. 33, no. 8, pp. 158-159.
- Gamperl, K.C. and K. Rodnick. 2003. *Metabolic and Thermal Physiology of Eastern Oregon Redband Trout: Recommendations for Appropriate Numeric Temperature Criteria*. Final Report for Oregon Department of Environmental Quality.
- Ganskopp, D.C. 1984. *Habitat Use and Spatial Interactions of Cattle, Wild Horses, Mule Deer and California Bighorn Sheep in the Owyhee Breaks of Southeast Oregon*. Ph.D. Dissertation, Oregon State University, Corvallis, OR.
- Gates, R.J. 1983. *Sage Grouse, Lagomorph and Pronghorn Use of a Sagebrush Grassland Burn Site on the Idaho National Engineering Laboratory*. Master's Thesis, Montana State University, Bozeman, Montana. 135 pp.
- Gill, R.B. 1965. *Distribution and Abundance of a Population of Sage Grouse in North Park, Colorado*. Master's Thesis, Colorado State University, Fort Collins, Colorado.
- Godwin, L.H., W.H. Lee, and S. Moore. 1980. *Lands Valuable for Geothermal Resources – Oregon, Revised*. Classification Map, scale 1:500,000. U.S. Geological Survey, Conservation Division, Western Region.
- Grayson, D.K. 1993. *The Desert's Past, a Natural Prehistory of the Great Basin*. Smithsonian Institution Press, Washington and London, see especially pp. 102-111, 212-213.
- Hanski, I. and M. Gilpin. 1991. *Metapopulation Dynamics: Brief History and Conceptual Domain*. Biological Journal of the Linnean Society. 42:3-16.
- Hanson, M.L., W. Bowers, and R. Perkins. 1993. *Lahontan Subbasins Fish Management Plan*. Oregon Department of Fish and Wildlife. Portland, Oregon.
- Harney County Website - www.harneycounty.com 2003.
- Harney County Community Response Team. 2002. Harney County Strategic Plan. Harney County, Oregon. 2002.
- Hemphill-Haley, Mark. 1987. *Quaternary Stratigraphy and Late Holocene Faulting along the Base of the Astern Escarpment of Steens Mountain, Southeast Oregon*. Humboldt State University Master's Thesis, 77 pp., Humboldt, California.
- Hemphill-Haley, M.A., W.D. Page, R. Burke, and G.A. Carver. 1989. *Holocene Activity of the Alvord Fault, Steens Mountain, Southeast Oregon*. Woodward-Clyde Consultants, Oakland, California for U.S. Geological Survey Grant No. 14-08-0001-G1333.
- House Report 101-405 (Arizona Desert Wilderness Act of 1990). Appendix A, Grazing Guidelines.
- Hupp, J.W. and C.E. Braun. 1989. *Topographic Distribution of Sage Grouse Foraging in Winter*. Journal of Wildlife Management 53:823-829.
- Idaho Department of Fish and Game, W-160-R-21, Sept. 1994.
- Johnson, J.A. 1994. *Geologic Map of the Krumbo Reservoir Quadrangle, Harney County, Southeastern Oregon*. U.S. Geological Survey Miscellaneous Field Studies Map MF-2267, see especially the 11-page booklet that accompanies the map.
- Johnson, D., D. Richard Lycan, J. Sweet, M. Heuhaus, and A. Schaedel. 1985. *Atlas of Oregon Lakes*. Oregon State University Press, Corvallis, Oregon.
- Johnson, R., V. Litz, and K.A. Cheek. 1995. *Assessing the Economic Impacts of Outdoor Recreation in Oregon*. College of Forestry, Oregon State University, Corvallis, Oregon.

- Kagan, J. and S. Caicco. 1996. *Manual of Oregon Actual Vegetation*. Oregon National Heritage Program, Portland, Oregon.
- Karl, M.G. and S.G. Leonard. 1996. *Western Juniper (Juniperus Occidentalis Ssp. occidentalis) in the Interior Columbia Basin and Portions of the Klamath and Great Basin: Science Assessment*. Review Draft. Interior Columbia Basin Ecosystem Management Project, Science Integration Team, Terrestrial Staff Range Task Group. Walla Walla, Washington.
- Kinch, G. 1989. *Riparian Area Management: Grazing Management in Riparian Areas*. USDI 1737-4, Bureau of Land Management. Denver, Colorado. 44 pp.
- Klebenow, P.A. 1969. *Sage Grouse Nesting and Brood Habitat in Idaho*. Journal of Wildlife Management 33:649-661.
- Kochert, M.N., et al. 1989. *Responses of Raptors to Livestock Grazing in the Western United States*. In: Proceedings, Western Raptor Management Symposium and Workshop. National Wildlife Federation, Washington, D.C. 320 pp.
- Kunkel, C.M. 1976. *Biology and Production of the Redband Trout in Four Southeastern Oregon Streams*. Master's Thesis, Oregon State University, Corvallis, Oregon.
- Leckenby, D.A., A.W. Adams, and R.W. Roberts. 1971. *Mule Deer Winter Range Ecology and Management*. Oregon State Game Commission. Pittman Robertson Project Report W-70-R-1.
- Li, H.W., G.A. Lamberti, T. Pearsons, C. Tait, J. Li, and J. Buckhouse. 1994. *Cumulative Effects of Riparian Distribution along High Desert Trout Streams of the John Day Basin, Oregon*. Transactions of the American Fisheries Society.
- Libbey, F.W. 1960. *Boron in Alvord Valley, Harney County, Oregon*. The Ore Bin, vol. 22, no. 10, pp. 97-105.
- Logan, B. and B. Clinch. 1991. *Montana Forestry BMPs*. Montana Department of State Lands, Missoula, Montana.
- Loomis, John B. 2000. Economic Values of Wilderness Recreation and Passive Use: What We Think We know at the Beginning of the 21st Century. USDA Forest Service Proceedings. RMRS, Volume 2, Page 15. 2000.
- Loomis, John B. and Robert Richardson. 2001. Economic Values of the U.S. Wilderness System. International Journal of Wilderness. Volume 7, Number 1. April 2001.
- Lorah, Paul A. 2000. Population Growth, Economic Security, and Cultural Change in Wilderness Counties. USDA Forest Service Proceedings. RMRS, Volume 2, Page 15. 2000.
- Mackie, R.J. 1970. *Range Ecology and Relationships of Mule Deer, Elk, and Cattle in the Missouri River Breaks, Montana*. Wildlife Monogram 20. 79 pp.
- Mansfield, Donald H. 1995. *Vascular Flora of Steens Mountain, Oregon*. Journal of the Idaho Academy of Science. Vol. 31 - No. 2. December, 1995.
- Markle, D.F. and D.L. Hill, Jr. 2000. *Taxonomy and Distribution of the Malheur Mottled Sculpin, Cottus benderei*. Northwest Science 74(3):202-211.
- Martin, Robert E. 1982. *Fire History and Its Role in Succession*.
- Maser, C. et al. 1984. *Wildlife Habitats in Managed Rangelands--The Great Basins of Southeastern Oregon*. Gen. Tech. Report PNW-172. Pacific Northwest Forest and Range Experiment Station. USDA Forest Service.
- McDonald, F. 1994. *The Riddle Brothers Ranch Historic District Cultural Resources Management Plan, Environmental Assessment*. Manuscript on file at the BLM Burns District Office, Hines, Oregon.
- McDonough, W.T. 1979. *Quaking Aspen Seed Germination and Early Seedling Growth*. USDA Forest Service. Research Paper INT-234. Intermountain Forest and Range Experiment Station. Ogden, UT. 13 pp.

- Meehan, W.R., ed. 1991. *Influences of Forest and Rangeland Management on Salmonid Fishes and Their Habitats*. Special Publication 19. Bethesda, MD: American Fisheries Society. 751 pp.
- Meeuwig, R.O. 1970. *Sheet Erosion on Intermountain Summer Ranges*. U.S. Department of Agriculture, Forest Service, Research Paper INT-85.
- Miller, R.F. and Weigan, P.E. 1994. *Holocene Changes in Semiarid Pinyon-juniper Woodlands*. *Bioscience* 44:465-474.
- Miller, R.F. and J.A. Rose. 1995. *Historical Expansion of Juniperus occidentalis (western juniper) in Southeastern Oregon*. *Great Basin Naturalist* 55:37-45.
- Miller, R.F., T. Svejcar, M. Willis, and L. Eddleman. 1996. *History, Ecology and Management of Western Juniper Woodlands and Associated Shrublands: an Annual Report of Preliminary Results and Progress for 1995*. Eastern Oregon Agricultural Research Center. 33 pp.
- Miller, R.F. and J.A. Rose. 1999. *Fire History and Juniperus Occidentalis Hook. Encroachment in Artemesia Steppe*. *American Midland Naturalist*. In submission.
- Miller, R.F., T.J. Svejcar, and J.A. Rose. 1999. *Impacts of Western Juniper Encroachment in Sagebrush Steppe*. *Journal of Range Management*, 53:550-585.
- Minor, S.A., J.J. Rytuba, J.J. Grubensky, D.B. Vander Meulen, C.A. Goeldner, and K.J. Tegtmeyer. 1987. *Geologic Map of the High Steens and Little Blitzen Gorge Wilderness Study Areas, Harney County, Oregon*. U.S. Geological Survey, Miscellaneous Field Studies Map MF-1876.
- Minor, S.A., Donald Plouff, L.E. Esparza, and T.J. Peters. 1987. *Mineral Resources of the High Steens and Little Blitzen Gorge Wilderness Study Areas, Harney County, Oregon*. U.S. Geological Survey Bulletin 1740-A. 21 pp.
- Moskowitz, D. and G. Rahr. 1994. *Native Trout Report: an Analysis of the Status and Management of Oregon's Native Trout with Management Recommendations for Conservation*. Native Trout Conservation Council. Portland, Oregon.
- Mueggler, W.F. 1985. Vegetation associations. In *Aspen: Ecology and Management in the Western United States*, eds. N.V. DeByle and R.P. Winokur, 45-55. USDA Forest Service. General Technical Report RM-119.
- Myers, L.H. 1989. *Grazing and Riparian Management in Southwestern Montana*. pp. 117-120 In: Gresswell R.E., Barton, B.A., and Kerschner, J.L., eds. *Practical Approaches to Riparian Resource Management: an Educational Workshop*. Bureau of Land Management, Billings, Montana.
- National Park Service, USDA Forest Service, Bureau of Indian Affairs, U.S. Fish and Wildlife Service, and Bureau of Land Management. 1998 *Wildland and Prescribed Fire Management Policy; Implementation Procedures Reference Guide*. National Interagency Fire Center. Boise, Idaho.
- Northwest Economic Associates. 2002. *Regional Economic Benefits of Ecotourism and Operations Associated with the Malheur National Wildlife Refuge*. Vancouver, Washington.
- Nussbaum, R.A., E.E. Brodie, Jr., and R.M. Stor. 1983. *Amphibians and Reptiles of the Pacific Northwest*. University of Idaho Press, Moscow. 332 pp.
- Oregon Agricultural Information Network (OAIN). 2002.
- Oregon Department of Agriculture. 1997. *Noxious Weed Policy and Classification System*. Oregon Department of Agriculture. Salem, Oregon.
- 1997 Census of Agriculture. 2002. Oregon State University Libraries, Corvallis, OR.
- Oregon Department of Environmental Quality. *Water Quality Limited Streams Database*.
- _____. 1988. Water Quality Division, Planning and Monitoring Section, Portland, Oregon. *Oregon Statewide Assessment of Nonpoint Sources of Water Pollution*.

Oregon Department of Fish and Wildlife. 1980. *Trout Management Plan Blitzen River*. Unpublished report.

_____. 1983. *Blitzen River Redband Trout Evaluation*. Information Reports No. 83-9.

_____. 1990. *Mule Deer Plan*.

_____. 1992-1997. *Oregon's Bighorn Sheep Management Plan*. 1992-1997. Portland, Oregon.

_____. 1992. *Oregon's Elk Management Plan*. July 1992. Portland, Oregon.

_____. 1993. *Oregon Cougar Management Plan. Public Review Draft*. Proposed for Adoption, March 1993.

_____. 1997. *Oregon Department of Fish and Wildlife Sensitive Species*. December 1997.

_____. 1997. *Catlow Redband Trout and Catlow Tui Chub Conservation Agreement and Strategy*.

_____. 1999. *Conservation Status of Oregon Basin Redband Trout*. Public Review Draft 4-12-99.

_____. 2002. *Hunter Surveys 2001*. Portland, Oregon.

_____. 2003a. *Oregon's Mule Deer Management Plan*. February 2003. Portland, Oregon.

_____. 2003b. *Oregon's Elk Management Plan*. February 2003. Portland, Oregon.

Oregon Department of Land Conservation Development. 1995. *Oregon's Statewide Planning Goals*.

Oregon Economic and Community Development Department. 2001. *Economic Data*. State of Oregon, Salem, Oregon.

_____. Oregon Resident Labor Force, Unemployment and Employment Tables, Various Years. Portland, Oregon.

Oregon Employment Department. 2002. Unemployment and Employment Data.

_____. 2003. Workforce Analysis; Eastern Oregon Labor Trends. June 2003.

Oregon Natural Heritage Advisory Council. 1995. *Rare, Threatened and Endangered Plants and Animals of Oregon*. Oregon Natural Heritage Program, Portland, Oregon. 84 pp.

_____. 1998. *Rare, Threatened and Endangered Species of Oregon*. March, 1998.

_____. 1998. *Oregon Natural Heritage Plan*. Natural Heritage Advisory Council to the State Land Board, Salem, Oregon. 137 pp.

Oregon Parks and Recreation Department. 2000. *Southeast Oregon Recreation Plan for Harney, Lake and Malheur Counties*.

_____. 1994. *Oregon Outdoor Recreation Plan 1994-1999*. Portland, Oregon.

_____. 2002. *Oregon Outdoor Recreation Plan 2002 Draft*. Portland, Oregon.

Oregon State University Extension Economic Information Office. 2000. *2000 Oregon County and State Agricultural Estimates*. Oregon State University, Corvallis, Oregon.

Oregon Tourism Commission. 2001. *Oregon Travel Impacts 1991-2000 Detailed County Estimates*.

Orr, E.L., W.N. Orr, and E.M. Baldwin. 1992. *Geology of Oregon*, 4th ed. Kendall/Hunt Publishing, Dubuque, Iowa. 254 pp.

Peters, S.G., G. Albino, H.C. Brooks, J.G. Evans, R.R. Carlson, G.H. Lee, A. Griscom, and P.F. Halvorson. 1994. *Economic Geology: Deposit Models and Tracts for Undiscovered Metallic Resources in the Malheur-Jordan-*

- Andrews Resource Areas, Southern Oregon*. In: Cole, S.L., ed. *Energy and Mineral Resources of the BLM Malheur-Jordan Resource Areas, Southeastern Oregon*. Administrative report B1-B19, U.S. Geological Survey.
- Proceedings, BLM Workshop: "*The Ecology and Management of Microbiotic Soil Crusts in the Great Basin and Snake River Plain*" Oct. 29-30, 1996. Boise, Idaho.
- Puchy, Claire A. and David B. Marshall. 1993. *Oregon Wildlife Diversity Plan*, 2nd ed. Oregon Department of Fish and Wildlife, Portland, Oregon.
- Quigley, Thomas M., Richard W. Haynes, and Russell T. Graham, tech. eds. September 1996. *Integrated Scientific Assessment for Ecosystem Management in the Interior Columbia Basin and Portions of the Klamath and Great Basins*. PNW-GTR-385. USDA, Forest Service, Pacific Northwest Research Station.
- Quigley, Thomas M. and S.J. Arbelbide Jr., tech. eds. 1997. *An Assessment of Ecosystem Components in the Interior Columbia Basin and Portions of the Klamath and Great Basins*. Gen. Tech. Rep. PNW-GTR-504. Four vols. USDA, Forest Service, Pacific Northwest Research Station.
- Reed-Jerofke, Linda. 1999. Personal Communication.
- Reformatted Comprehensive Plan for the City of Burns, Oregon*. August, 1977.
- Reyna, N. 1998. *Economic and Social Conditions of Communities: Economic and Social Characteristics of Interior Columbia Basin Communities and an Estimation of Effects on Communities from the Alternatives of the Eastside and Upper Columbia River Basin Draft Environmental Impact Statements*.
- Reisenbichler, R.R. 1977. *Effects of Artificial Propagation of Anadromous Salmonids on Wild Populations*. In Hassler, T.J. and R.R. Vankirk, eds. *Genetic Implications of Steelhead Management*. Special Report 77-1. California Cooperative Fishery Research Unit: 2-3. Arcata, California.
- Rieman, B., D. Lee., et al. 1993 *Consideration of Extinction Risks for Salmonids*. Fish Habitat Relationships Technical Bulletin Number 14. U.S. Department of Agriculture, Forest Service. Eureka, California.
- Roberts, B.C. 1995. *Best Management Practices of Erosion and Sediment Control*.
- Roché, C. and L.C. Burrill. 1992. *Squarrose Knapweed*. Pacific Northwest Extension Publication PNW 422. Corvallis, Oregon. 2 pp.
- Roché, B.F., C.T. Roché, and R.C. Chapman. 1994. *Impacts of Grassland Habitat on Yellow Starthistle (Centarua solstitialis) Invasion*. Northwest Science 68(2):86-96.
- Rudzitis, Gundars and Rebecca Johnson. 2000. *The Impact of Wilderness and Other Wildlands on Local Economies and Regional Development Trends*. USDA Forest Service Proceedings. RMRS, Volume 2, Page 15. 2000.
- Schlosser, I.J. 1982. *Trophic Structure, Reproductive Success and Growth Rate of Fishes in a Natural and Modified Headwater Stream*. Canadian Journal of Fisheries and Aquatic Sciences. 39:968-978.
- Scott, W.B. and E.J. Crossman. 1973. *Freshwater Fishes of Canada*. Bulletin 184, Fisheries Research Board of Canada. Ottawa, Canada.
- Severson, K.E. and J.N. Rinne. 1988. *Increasing Habitat Diversity in Southwestern Forests and Woodlands via Prescribed Fire*.
- Sigler, W.F. and J.W. Sigler. 1987. *Fishes of the Great Basin - A Natural History*. University of Nevada Press. Reno, NV. 425 pp.
- Smith, Cole L., ed. *Mineral and Energy Resources of the BLM Malheur-Jordan-Andrews Resource Areas, Southeastern Oregon*: U.S. Geological Survey administrative report to the BLM for the Southeast Oregon Resource Management Plan that will be published as a USGS professional paper in approximately 2002.

- St. Clair, L. and J. Johansen. 1993. *Introduction to the Symposium on Soil Crust Communities*. Great Basin Naturalist. Vol. 53.
- State of Oregon, Department of Forestry. *Various Annual Reports, 1985-1998*. Oregon Timber Harvest Report. Salem, Oregon. One p.
- Stearley, R.F. and G.R. Smith. 1983. *Phylogeny of the Pacific Trouts and Salmon (Oncorhynchus) and genera of the Family Salmonidae*. Transactions of the American Fisheries Society. 122:1-33.
- Tait, C.K., J. Li, G. Lamberti, T. Pearsons, and H. Li. 1994. Relationships between Riparian Cover and the Community Structure of High Desert Streams. Journal of the North American Benthological Society. 13: 45-56.
- Thomas, J.W. et al. *Wildlife Habitats in Managed Rangelands - The Great Basin of Southeastern Oregon*.
- Thurrow, R. 1988. *Wood River Fisheries Investigations*. Job Performance Report. Project F-73-R-10. Idaho Department of Fish and Game. Boise, Idaho.
- Trainer, C.E., J. Lemos, T.P. Kistner, W.C. Lightfoot, and D.E. Towel. 1981. *Mortality of Mule Deer Fawns in Southeastern Oregon, 1968-1979*. Oregon Department of Fish and Wildlife Research Report 10. 113 pp.
- U.S. Department of Agriculture (APHIS). 1994. *Animal Damage Control. Final Environmental Impact Statement*. Three Volumes. Washington, D.C.
- U.S. Department of Agriculture/U.S. Department of Interior. 1996. U.S. Forest Service (USFS)/ Bureau of Land Management (BLM). *Status of the Interior Columbia Basin, Summary of Scientific Findings*. U.S. Department of Agriculture, Forest Service General Technical Report PNW-GTR-385, Portland, Oregon. 144 pp.
- _____. 1996. *Integrated Scientific Assessment for Ecosystem Management in the Interior Columbia Basin*. Portland, Oregon.
- _____. 1997. *Interior Columbia Basin Ecosystem Management Project Eastside Draft Environmental Impact Statement*. Walla Walla, Washington.
- _____. 1999. *Forest Service and Bureau of Land Management Protocol for Addressing Clean Water Act Section 303(d) Listed Waters*. Version 2. May 1999. Portland Oregon.
- _____. 2000a. *Interior Columbia Basin Final Environmental Impact Statement*. December 2000. Portland, Oregon.
- _____. 2000b. *Interior Columbia Basin Final Environmental Impact Statement Supplemental Draft*. March 2000. Portland, Oregon.
- _____. 2000c. *Interior Columbia Basin Final Environmental Impact Statement Proposed Record of Decision*.
- _____. 2003. *Interior Columbia Basin Strategy; A Strategy for Applying the Knowledge Gained by the Interior Columbia Basin Ecosystem Management Project to the Revision of Forest and Resource Management Plans and Project Implementation*. February 2003. Portland, Oregon.
- U.S. Department of Commerce. 2002. *2000 Census of Population and Housing*. U.S. Census Bureau.
- U. S. Department of the Interior. 1977. Bureau of Land Management. *Grazing Management for Riparian-wetland Areas*. USDI 1737-14. Denver, Colorado. 63 pp.
- _____. BLM. *BLM's Recreation 2000 Plan & Update*.
- _____. 1980. BLM. *Visual Resource Management Program*. GPO 0-302-993. Washington Office, Washington, D.C.
- _____. 1981. BLM. *Paleontological Sites on or near Bureau of Land Management Administered Lands in Oregon: a Preliminary Catalogue*. Oregon State Office, Portland, Oregon.
- _____. 1982. USFWS. *Pacific Coast American Peregrine Falcon Recovery Team*.

- _____. 1982a. BLM. *Andrews Management Framework Plan*.
- _____. 1982b. BLM. *Andrews Grazing Management Program EIS*. September 1982.
- _____. 1983. BLM Manual 8560. *Management of Designated Wilderness Areas*. Washington Office, Washington, DC.
- _____. 1984. BLM Manual 8400. *Visual Resource Management*. Washington Office, Washington, DC.
- _____. 1985. BLM. *Steens Mountain Final Recreation Area Management Plan*. Burns District Office, Burns, Oregon.
- _____. 1986a. BLM. *Andrews Rangeland Program Summary Update*. Burns District Office, Burns, Oregon. December 1986.
- _____. 1986b. BLM. *Recovery Plan for the Pacific Bald Eagle*.
- _____. 1986. BLM Manual Handbook 8410-1. *Visual Resource Inventory*. Washington Office, Washington, DC. 20 pp.
- _____. 1986. BLM. *Andrews Rangeland Program Summary (May 1984) and update allotment map (December 1986, showing about 25 allotments)*.
- _____. 1987. BLM. *Supplement to the Northwest Area Noxious Weed Control Program Final Environmental Impact Statement*. Oregon State Office, Portland, Oregon.
- _____. 1987. USFWS. *Recovery Plan for the Borax Lake Chub, Gila boraxobius*.
- _____. 1988a. BLM. *The Land Tenure Adjustment Plan Amendment for the Andrews and Drewsey MFPs*.
- _____. 1988b. BLM Manual 1613. *Areas of Critical Environmental Concern Resource Management Planning Guidance*. Washington Office, Washington, DC. 28 pp.
- _____. 1988c. BLM. *National Environmental Policy Act. Handbook H-1790-1*. October 25, 1988.
- _____. 1988. BLM. *1613 - Areas of Critical Environmental Concern. Resource Management Planning Guidance*. Washington Office, Washington, D.C. 22 pp.
- _____. 1988. BLM Manual 8110. *Cultural Resource Identification*. Washington Office, Washington, DC.
- _____. 1989a. BLM. *Oregon Wilderness Final Environmental Impact Statement*. December 1989.
- _____. 1989b. BLM. *Oregon Wilderness Environmental Impact Statement*. Volume III. Includes Appendices for all WSAs beginning with OR-2 plus OR-3-114. Oregon State Office, Portland, Oregon. December 1989.
- _____. 1989c. *Oregon Wilderness Environmental Impact Statement*. Volume I - Statewide. Oregon State Office, Portland, Oregon. December 1989.
- _____. 1990. Bureau of Land Management and Oregon Department of Environmental Quality. *Memorandum of Agreement*.
- _____. 1990. BLM Manual 8160. *Native American Coordination and Consultation*. Washington Office, Washington, DC.
- _____. 1990. BLM Manual 8300. *Recreation Management*. Washington Office, Washington, DC. 17 pp.
- _____. 1991a. BLM. *Vegetation Treatment on BLM Lands in Thirteen Western States. Final Environmental Impact Statement*. BLM-WY-ES-91-022-4320. Wyoming State Office, Cheyenne, Wyoming.
- _____. 1991b. BLM. *Endangered and Threatened Wildlife and Plants; Animal Candidate Review for Listing as Endangered or Threatened Species, Proposed Rules*. Federal Register, 56 (115):58804-58836.
- _____. 1991. BLM. *Endangered and Threatened Wildlife and Plants*. 50 CFR 17.11. GPO, Washington, D.C.

- _____. 1991. BLM. *Wilderness Study Report*. Volume I. Oregon State Office, Portland, Oregon. October 1991.
- _____. 1992a. BLM. *Three Rivers Resource Management Plan, Record of Decision, and Rangeland Program Summary*. Burns District Office, Hines, Oregon. September 1992.
- _____. 1992b. BLM. *National Wild & Scenic River Donner und Blitzen Management Plan Environmental Assessment*. Burns District Office, Hines, Oregon. June 1992.
- _____. 1992. BLM. *Procedures for Ecological Site Inventory*. Tech. Ref. 1737-7.
- _____. 1993a. BLM. *Donner und Blitzen National Wild and Scenic River Management Plan Environmental Assessment*. Burns District Office, Hines, Oregon. May 1993.
- _____. 1993b. BLM. *Andrews Plan Amendment for Recreation Access Surrounding the Steens Mountain Loop Road*. Burns District Office, Hines, Oregon. June 1993.
- _____. 1993. BLM. *Process for Assessing Proper Functioning Condition. BLM Technical Reference 1737-9*. Washington Office, Washington, D.C.
- _____. 1994a. BLM. *The Riddle Brothers Ranch Historical Cultural Management Plan, Environmental Assessment*.
- _____. 1994b. BLM. *Rangeland Reform '94, Draft Environmental Impact Statement Executive Summary*.
- _____. 1994. BLM. *A partial Inventory of Meadows on Public Land in the Pueblo Mountains (Pueblo-Lone Mountain Allotment)*. Burns D.O.
- _____. 1995a. BLM. *Pueblo-Lone Mountain Management Plan EA*. August 1995.
- _____. 1995b. BLM. *Interim Management Policy for Lands under Wilderness Review H-8550-1*.
- _____. 1995. BLM. *Mountain Sheep Ecosystem Management Strategy in 11 Western States & Alaska*.
- _____. 1995. BLM. *Southeastern Oregon Resource Management Plan (SEORMP) Process and Preliminary Issues*. Vale District Office, Vale, Oregon. August 1995.
- _____. 1995. BLM. *Pueblo-Lone Mountain Allotment Management Plan*. Burns District, Hines, Oregon.
- _____. 1995. U.S. Geological Survey *Water Data Report OR-95-1, Water Resources Data, Oregon, Water Year 1995*. Water Resources Division, Portland, Oregon.
- _____. 1995a. USFWS. *Biological Opinions - Section 7 Consultation for the 1995-1996 Grazing Authorization on the Alvord and Mann Lake Allotments and Lahontan Cutthroat Trout*. U.S. Fish and Wildlife Service.
- _____. 1995b. USFWS. *Recovery Plan for the Lahontan Cutthroat Trout*. U.S. Fish and Wildlife Service.
- _____. 1996a. BLM. *Kiger Mustang Area of Critical Concern Management Plan*.
- _____. 1996b. BLM. *Riddle Mountain and Kiger Wild Horse Herd Management Area Plan*.
- _____. 1997a. USFWS. *Recovery Plan for the Borax Lake Chub, Gila boraxobius*. Portland, Oregon. February 4, 1997.
- _____. 1997b. BLM. *Upper Columbia River Basin Draft Environmental Impact Statement*. Volume 1. May 1997.
- _____. 1997. BLM. *Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands in Oregon and Washington*. August 1997.
- _____. 1997. Fish and Wildlife Service (USFWS). *Catlow Redband Trout and Catlow Tui Chub Conservation Agreement and Strategy*.

- _____. 1998a. BLM. *Noxious Weed Management Project Environmental Assessment EA No. OR-020-98-05*. Hines, Oregon. April 16, 1998.
- _____. 1998b. BLM. *Draft Southeast Oregon Resource Management Plan and Environmental Impact Statement*. Vale, Oregon. October 1998.
- _____. 1998. BLM. *Proper Functioning Condition Assessments*.
- _____. 1998. BLM. *A User Guide to Assessing Proper Functioning Condition and the Supporting Science for Lotic Areas*. USDI 1737-15. Denver, Colorado. 126p.
- _____. 1998. BLM. *EA #OR-010-98-05 Mining Use & Occupancy - Sunstone Mining Area*.
- _____. 1999. BLM. *Burns District Environmental Assessment for Commercial Day Use Activities*. OR-020-EA-99-24
- _____. 1999. BLM. *A User Guide to Assessing Proper Functioning Condition and the Supporting Science for Lotic Areas*. USDI 1737-16. Denver, Colorado. 109 pp.
- _____. 1999. BLM. *Proper Functioning Condition Assessments*.
- _____. 1999. USFWS. *Biological Opinions - Section 7 Consultation for the 1999-2004 Grazing Activities on the Pueblo Mountain Allotment*. United States Fish and Wildlife Service.
- _____. 2000a. BLM. *Proposed Southeast Oregon Resource Management Plan and Final Environmental Impact Statement*. Volume 1 of 3 - Text. Vale District Office, Oregon. December 2000.
- _____. 2000b. BLM, USFWS, USDA-USFS, Oregon Department of Fish and Wildlife, and Oregon Division of State Lands. *Greater Sage-Grouse and Sagebrush-Steppe Ecosystems Management Guidelines*. August 21, 2000. Oregon State Office, Portland, Oregon BLM. 27 pp.
- _____. 2000. USFWS. *Status Review for Great Basin Redband Trout*. Portland, Oregon. February 2000.
- _____. 2000. BLM. *Record of Decision for the Proposed Southeast Oregon Resource Management Plan and Final Environmental Impact Statement*. Vale District Office, Oregon. December 2000.
- _____. 2001a. BLM. *Steens Mountain Cooperative Management Planning Area Interim Management Policy*. April 20, 2001.
- _____. 2001b. BLM. *Final Decision Record for Projects for Implementation of the Steens Mountain Cooperative Management and Protection Act of 2000 Environmental Assessment, EA-OR-027-01-27*. Burns District Office, Hines, Oregon.
- _____. 2001c. BLM. *Decision Record and Finding of No Significant Impact for Steens Mountain Trail Maintenance*. Burns District Office, Hines, Oregon.
- _____. 2001d. BLM. *Land Use Planning Handbook*. H-1601-1. Last updated: January 5, 2001.
- _____. 2001e. BLM. *National Management Strategy for Motorized Off-Highway Vehicle Use on Public Lands*. Washington, D.C. January 19, 2001.
- _____. 2001f. BLM. *Wilderness Management*.
- _____. 2001g. BLM. *Wilderness Management: Final Rule*. January 16, 2001.
- _____. 2001. BLM. *Steens Mountain in the Summer* (http://www.or/blm/gov/steens/background/background_page.htm).
- _____. 2001. BLM. *Steens Mountain Area Resources Document prepared for the Steens Mountain Advisory Council*.
- _____. 2001. BLM. GIS Map: *Baseline PFC Map*.

- ____. 2001. BLM. GIS Map: *ACEC Map with Potentials*.
- ____. 2001. BLM. GIS Map: *Range Improvements*.
- ____. 2001. BLM. GIS Map: *Noxious Weeds*.
- ____. 2001. BLM. GIS Map: *Current Geologic Map*.
- ____. 2001. BLM. GIS Map: *Grazing Allotments*.
- ____. 2001. BLM. GIS Map: *Area Closed to Mineral Leasing Including Interim WSR Corridor*.
- ____. 2001. BLM. GIS Map: *Fire*.
- ____. 2001. BLM. GIS Map: *CMPA Top 10 Landowners Not in Exchanges Plus Pre-Exchange Owners and Acres Per Title Plat*.
- ____. 2001. BLM. GIS Map: *Sensitive Plants*.
- ____. 2001. BLM. GIS Map: *Burns District Base Map*.
- ____. 2001. BLM. GIS Map: *General Vegetation*.
- ____. 2001. BLM. GIS Map: *General Soils*.
- ____. 2001. BLM. GIS Map: *Fish*.
- ____. 2001. BLM. GIS Map: *WSAs pre- and post-act (smaller size)*.
- ____. 2001. BLM. GIS Map: *Steens Mountain w/Boundaries and Exchanges*.
- ____. 2001. BLM. GIS Map: *8.5 x 11 Boundaries of Bureau of Land Management (BLM) RAs in Oregon*.
- ____. 2001. BLM. GIS Map: *Wildlife*.
- ____. 2001. BLM GIS Map: *Post-Act Base Map with Exchanges*.
- ____. 2001. BLM. GIS Map: *New WSAs Post-Act & Exchanges*.
- ____. 2001. BLM. GIS Map: *Small Congressional Designations*.
- ____. 2001. BLM. GIS Map: *Range Condition*.
- ____. 2001. BLM. GIS Map: *Base Map with RNAs, ACECs, HMAs, WJMA and Recreation area*.
- ____. 2001. BLM. GIS Map: *Roads Closed in Wilderness*.
- ____. 2001. BLM. GIS Map: *Base Map Andrews/Steens*.
- ____. 2001. BLM. GIS Map: *Subbasins and 303(d) Listed Streams*.
- ____. 2001. BLM. GIS Map: *Cultural Resources*.
- ____. 2001. BLM. GIS Map: *Smaller Map of all WSAs and Boundaries*.
- ____. 2001. BLM. GIS Map: *Minerals Potential and Withdrawal Area*.
- ____. 2001. USFWS. *Biological Opinions - Section 7 Consultation for Ongoing Implementation of the Pueblo-Lone Mountain Allotment Management Plan*. United States Fish and Wildlife Service.

- _____. 2002. BLM. *Analysis of the Management Situation*. January 2002. Hines, Oregon
- _____. 2002. BLM. *Summary of the Analysis of the Management Situation*. April 2002. Hines, Oregon.
- _____. Undated. BLM. *Selected Noxious Weeds of Oregon*.
- _____. 2003. USFWS and U.S. Department of Commerce, U.S. Census Bureau. *2001 National Survey of Fishing, Hunting, and Wildlife-Associated Recreation*. Revised March 2003. Washington D.C.
- U.S. Department of Transportation Report. 1994. No. FHWA-FLP-94-005. National Technical Information Service, Springfield, Virginia.
- U.S. Environmental Protection Agency. 1998. Final Guidance for Incorporating Environmental Justice Concerns in EPA's NEPA Compliance Analyses.
- Vavra, L.A. and F.A. Sneva. 1978. *Diets of Grazing Animals Using Common Range in Eastern Oregon*.
- Volland, L.A. and J.D. Dell. 1981. *Fire Effects on Pacific Northwest Forest and Range Vegetation*. U.S. Department of Agriculture, Forest Service, Pacific Northwest Region Rangeland Management/Aviation and Fire Management Report. R6 RM 067. Portland, Oregon. 23 pp.
- Walker, G.W. and N.S. MacLeod. 1991. *Geologic Map of Oregon, scale 1:500,000*. U.S. Geological Survey. Portland, Oregon.
- Wall, T.G. 1999. *Juniper Encroachment into Quaking Aspen (Populus tremuloides) Communities in the Northern Great Basin*. Oregon State University M.S. Thesis, Corvallis. 72 pp.
- Wall, T.G., R.F. Miller, and T.J. Svejcar. 2001. *Juniper Encroachment into Aspen in the Northwest Great Basin*. Journal of Range Management. 54:691-698.
- Wallace, R.L. 1981. *Morphological Study of Native trout Populations of Owyhee County, Idaho*. Final Report Contract ID-010-DT0-002. Department of the Interior, Bureau of Land Management. Boise, Idaho. 49 pp.
- Wallestad, R.O. and D.B. Pyrah. 1974. *Movement and Nesting of Sage Grouse Hens in Central Montana*. Journal of Wildlife Management 38:630-633.
- Wayland, R.G. and W.H. Lee. 1980. *Lands Valuable for Sodium and Potassium – Oregon, Revised*. Map scale 1:500,000. U.S. Geological Survey, Conservation Division, Western Region. Portland, Oregon.
- Weissenborn, ed. 1969. *Mineral and Water Resources of Oregon*: Oregon Department of Geology and Mineral Industries Bulletin 64. see especially pp. 157 and 184.
- West, N.E. 1984. *Successional Patterns and Productivity Potentials of Pinyon-juniper Ecosystems*. In: Developing strategies for rangeland management. National Research Council/National Academy of Sciences, 1301-1332. Westview Press, Boulder, Colorado.
- Williams, Howel and Robert R. Compton. 1953. *Quicksilver Deposits of Steens Mountain and Pueblo Mountains, Southeast Oregon*: U.S. Geological Survey Bulletin 995-B, 76 pages and three plates.
- Williams, J.E. 1995. *Threatened Fish of the World: Gila boraxobius Williams and Bond, 1980 (Cyprinidae)*. Environmental Biology of Fishes. 43: 294.
- Williams, J.E. and C.E. Bond. 1983. *Status and Life History Notes on the Native Fishes of the Alvord Basin, Oregon and Nevada*. Great Basin Naturalist. 43(3):409-420.
- Williams, J.E., J.E. Johnson, D.A. Hendrickson et al. 1989. *Fishes of North America Endangered, Threatened or of Special Concern*. American Fisheries Society. Bethesda, Maryland. 14(6): 2-20.
- Williams, R.N. 1991. *Genetic Analysis and Taxonomic Status of Cutthroat Trout from Willow Creek and Whitehorse Creek in Southeastern Oregon*. Evolutionary genetics Lab Report 91-3. Boise State University. Boise, Idaho.

- Williams, T.R. and M.S. Bedinger. 1984. *Selected Geologic and Hydrologic Characteristics of the Basin and Range Province, Western United States, Pleistocene Lakes and Marshes*: U.S. Geological Survey Miscellaneous Investigations Series Map I-1522-D, scale 1:2,500,000.
- Willis, M.J. 1993. *Sage Grouse in Oregon*. Oregon Department of Fish and Wildlife Research Report No. 15. 54 pp.
- Wright, H.A. and C.M. Britton. 1976. *Fire Effects on Vegetation in Western Rangeland Communities*.
- Zoellick, B. 1995. *Summer Water Temperatures and the Distribution of Redband Trout in Four Streams in the Owyhee Mountains*. Unpublished information presented at Idaho Chapter Annual Meeting of American Fisheries Society. Boise, Idaho.

6.3 Index

This index does not include references to word or phrases contained in Table S.1 or 2.1.

A

- ACECs xiii, 1-4-1-6, 1-9, 2-79, 2-124, 2-125, 2-128, 2-130, 2-131, 2-133-2-135, 2-137, 2-138, 2-150-2-155, 2-162-2-166, 2-169, 2-174, 2-180, 2-194, 2-198, 3-51, 3-61, 4-2, 4-14, 4-16, 4-18, 4-25, 4-26, 4-34-4-36, 4-87, 4-94-4-97, 4-114, 4-120, 4-132, 4-139, 4-144, 4-146, 4-149-4-151, 4-156, 4-157, 4-161, 4-163, 4-164, 4-173, 4-174, 4-178, 4-181, 4-195, 4-202, 4-211, 4-215, 4-222, 4-223, 4-233, 4-246, 5-6, 6-8, 6-25
- Actual use data 2-103
- Adaptive Management 2-79-2-81, 2-87, 4-1, 4-6, 4-20, 4-29, 4-83, 4-108, 4-120, 6-1
- Advanced ecological status 2-83, 2-90, 2-93, 2-94, 2-115, 3-10, 4-9, 4-11-4-13, 4-27, 4-28, 4-32, 4-33, 4-35, 4-71, 4-73-4-75, 4-77, 4-79, 4-82, 4-84, 4-86, 4-101, 4-110, 4-113, 4-124, 4-125, 4-171, 4-172, 4-174, 4-176, 4-180, 4-188, 6-1
- Agricultural Plant and Animal Health Inspection Service (APHIS) 3-21
- Air Quality 1-6, 2-83, 2-84, 2-86, 2-200, 2-201, 3-2, 4-2-4-5, 4-39, 4-43, 4-48, 4-52, 4-162, 4-187, 4-190, 4-191, 4-193, 5-6, 6-9
- Allotment xi, xiii, 1-2, 2-88, 2-91, 2-95, 2-126, 2-128, 2-130, 2-132, 2-133, 2-140, 2-143-2-145, 2-181, 2-182, 2-186-2-189, 2-193, 2-195-2-198, 2-201, 3-8, 3-45, 3-46, 3-49-3-51, 4-6, 4-7, 4-16, 4-18, 4-37, 4-81, 4-85, 4-89, 4-95, 4-104, 4-111, 4-117, 4-121, 4-122, 4-149, 4-169, 4-173, 4-176, 4-181, 4-189, 4-192, 4-225, 4-228, 4-232, 4-237, 6-1, 6-21-6-23, 6-25
- Allotment (grazing) 6-1
- Allotment Management Plan (AMP) 6-1
- AML xiii, 2-141, 2-142, 3-44, 3-45, 4-20, 4-31, 4-33, 4-62, 4-64, 4-91, 4-104, 4-123, 4-124, 4-166, 4-168, 4-170, 4-175, 4-178, 6-1
- AMS xiii, 1-2, 1-4, 2-78, 5-1, 5-3, 5-4, 6-1
- AMU i, ii, xiii, 1-1, 1-6, 1-10, 2-89, 2-94, 2-104, 2-125-2-128, 2-130, 2-131, 2-143-2-145, 2-163-2-165, 2-167-2-172, 2-175, 3-3-3-6, 3-9, 3-10, 3-16, 3-18, 3-22, 3-24-3-26, 3-34-3-36, 3-41, 3-42, 3-45, 3-46, 3-51, 3-52, 3-55, 3-57-3-60, 3-62, 3-64, 4-12, 4-14, 4-16, 4-18, 4-21-4-23, 4-25-4-27, 4-29, 4-33, 4-34, 4-54, 4-60, 4-62, 4-65, 4-69, 4-81, 4-83, 4-85, 4-87, 4-93-4-96, 4-104, 4-108, 4-111, 4-114, 4-120, 4-122, 4-147-4-151, 4-155, 4-156, 4-158, 4-170, 4-171, 4-173, 4-175, 4-177-4-181, 4-183, 4-189, 4-191, 4-205, 4-210-4-212, 4-215-4-218, 4-220-4-222, 4-243-4-245, 5-1
- Analysis of the Management Situation (AMS) 1-2, 6-1
- Andrews Management Framework Plan (Andrews MFP) 1-1
- Andrews Management Unit (AMU) i, 1-1
- Andrews MFP xiii, 1-1, 1-2, 2-82, 2-124, 2-125, 2-135, 2-136, 3-57-3-59, 3-61, 4-196
- Andrews RA xiii, 1-1, 2-151, 2-222, 3-1, 3-65, 4-43, 4-45, 4-47, 4-186, 4-187, 4-194, 4-204, 4-205, 5-1
- Andrews Resource Area (Andrews RA) 1-1
- Animal unit xiii, 3-45, 6-1
- Animal Unit Month (AUM) 6-1
- APHIS xiii, 3-21, 3-22, 6-20
- Appropriate Management Level (AML) 6-1
- Aquatic ecosystem 4-227
- Areas of Critical Environmental Concern (ACECs) 1-4
- AUM xiii, 3-39, 3-46, 6-1
- Avoidance Areas 2-126, 2-127, 2-130, 2-131, 2-150, 2-153-2-155, 4-10, 4-25, 4-26, 4-85, 4-103, 4-112, 4-114, 4-117, 4-150, 4-151, 4-197, 4-200, 4-202, 6-1

B

- Back Country Byway (BCB) 3-60
- Basin (river) 6-1
- BCB xiii, 2-173, 3-60, 4-215
- Beneficial use 2-90, 4-18, 4-70, 4-119
- Best Management Practices (BMPs) 2-86, 6-1
- Biomass 2-96, 2-97, 2-101, 2-149, 2-153, 4-56, 4-57, 4-61, 4-195
- BLM i-iii, xii, xiii, 1-1-1-12, 2-1, 2-2, 2-80-2-82, 2-84, 2-86, 2-87, 2-89, 2-92, 2-93, 2-95, 2-102, 2-104, 2-106, 2-108, 2-109, 2-111, 2-113, 2-114, 2-116, 2-118, 2-119, 2-121-2-127, 2-129, 2-130, 2-132-2-139, 2-141, 2-143, 2-148-2-152, 2-154, 2-156-2-159, 2-162, 2-164, 2-165, 2-180, 2-199, 2-200, 2-220,

2-222, 2-223, 3-2-3-4, 3-6, 3-9, 3-12, 3-15, 3-17, 3-20-3-22, 3-24, 3-26, 3-27, 3-29-3-37, 3-39-3-43, 3-45, 3-50, 3-51, 3-53, 3-55-3-63, 3-66, 4-1, 4-5-4-8, 4-20, 4-25, 4-28, 4-29, 4-33-4-36, 4-38, 4-39, 4-43, 4-48, 4-51, 4-63, 4-72, 4-76, 4-78, 4-81, 4-86, 4-87, 4-95, 4-98, 4-99, 4-104, 4-114, 4-115, 4-119, 4-123, 4-127, 4-131, 4-134, 4-138, 4-140, 4-144, 4-149, 4-153, 4-154, 4-156, 4-159-4-162, 4-164-4-167, 4-175, 4-194-4-197, 4-201, 4-204-4-208, 4-222, 4-223, 4-225, 4-234, 4-235, 4-246-4-248, 5-1, 5-2, 5-4, 5-5, 6-1-6-5, 6-7-6-9, 6-12-6-14, 6-17, 6-19-6-25	
BLM assessment species	3-32, 6-2
BLM sensitive species	3-27, 6-2
BLM tracking species	3-32, 6-2
BMPs . . .	xiii, 2-86, 2-87, 2-89-2-92, 2-94, 2-159, 3-6, 4-5-4-10, 4-12, 4-13, 4-15, 4-17-4-21, 4-24, 4-26-4-30, 4-39, 4-49, 4-56, 4-57, 4-63, 4-64, 4-67, 4-68, 4-71-4-77, 4-97, 4-100, 4-101, 4-122, 4-152, 4-161, 4-185, 4-206, 4-209, 6-1, 6-16
Bureau of Land Management (BLM)	ii, 6-1, 6-20, 6-24
C	
CAA	xiii, 2-83, 2-84, 3-2
Candidate Species	2-93, 3-18, 3-26, 3-27, 6-2
CEQ	xiii, 2-125
Classification .	1-11, 2-116, 2-127, 2-154-2-156, 2-222, 3-15, 3-27, 3-65, 4-139, 4-246, 4-247, 6-2, 6-9, 6-11, 6-15, 6-18
Clean Air Act (CAA)	2-83
Climax vegetation	3-13, 6-2
CMPA . . .	i, ii, xi, xiii, 1-1, 1-2, 1-6, 1-7, 1-10, 2-2, 2-82, 2-83, 2-89, 2-94, 2-99, 2-104, 2-117, 2-120, 2-124, 2-125, 2-127, 2-128, 2-130-2-133, 2-144, 2-145, 2-152-2-155, 2-158-2-173, 2-175, 2-222, 3-1, 3-3-3-5, 3-9, 3-10, 3-12, 3-16, 3-18, 3-22, 3-24, 3-25, 3-28, 3-29, 3-33-3-36, 3-40-3-42, 3-45, 3-46, 3-51, 3-52, 3-54-3-62, 3-64, 3-65, 4-8, 4-9, 4-11, 4-12, 4-14, 4-16, 4-18, 4-21-4-25, 4-27-4-30, 4-33, 4-34, 4-43, 4-45, 4-60, 4-62, 4-65, 4-74, 4-77, 4-81, 4-83, 4-85, 4-87, 4-93-4-95, 4-104, 4-108, 4-111, 4-114, 4-120, 4-125, 4-128, 4-131, 4-134, 4-136, 4-138, 4-141, 4-143, 4-147-4-151, 4-154, 4-155, 4-158, 4-171, 4-173, 4-175, 4-177-4-181, 4-183, 4-191, 4-192, 4-200, 4-202, 4-205-4-212, 4-214-4-222, 4-242-4-247, 5-1, 6-24
Code of Federal Regulations (CFR)	1-10
Colluvium	2-117, 3-8, 6-2
Commodities	2-83, 2-125, 2-130, 2-131, 3-39, 4-152, 4-195, 6-2
Community	xiii, 1-7, 2-91, 2-97, 2-102, 2-107, 2-110, 2-111, 2-126, 2-130, 2-133, 2-143, 2-144, 2-152, 2-200, 3-7, 3-9-3-15, 3-19, 3-36, 3-37, 3-40, 3-42, 3-51, 3-52, 3-54, 4-7, 4-9, 4-11-4-14, 4-16, 4-17, 4-21, 4-29-4-32, 4-36, 4-37, 4-39, 4-41, 4-43, 4-44, 4-46, 4-47, 4-49-4-52, 4-54-4-63, 4-66, 4-68, 4-72-4-74, 4-76-4-78, 4-90, 4-92, 4-96, 4-97, 4-100, 4-105, 4-131, 4-142, 4-143, 4-145, 4-152, 4-158, 4-159, 4-167, 4-169, 4-179, 4-185, 4-188, 4-191, 4-197-4-200, 4-202, 4-227-4-229, 5-3, 5-5, 6-2, 6-3, 6-7, 6-9, 6-10, 6-15, 6-18, 6-20
Consultation . . .	S-2, 1-8, 1-10, 2-83, 2-115, 2-119, 2-123, 3-31, 3-33, 3-34, 3-50, 4-98, 4-119, 4-123, 4-133, 4-140, 4-141, 5-1, 6-2, 6-22, 6-23, 6-25
Council on Environmental Quality (CEQ)	2-125
Criteria pollutants	2-83
Cultural Resources	1-2, 1-8, 2-118-2-122, 2-146, 2-221, 3-34, 3-59, 3-61, 3-65, 4-39, 4-43, 4-48, 4-129, 4-133, 4-134, 4-136-4-141, 4-155, 4-156, 4-185, 4-209, 4-213, 5-6, 6-13, 6-17, 6-25
Cumulative effects . .	S-2, 4-1, 4-5, 4-19, 4-28, 4-38, 4-53, 4-62, 4-70, 4-77, 4-91, 4-98, 4-119, 4-122, 4-127, 4-133, 4-134, 4-140, 4-145, 4-152, 4-159, 4-160, 4-166, 4-177, 4-184, 4-194, 4-204, 4-205, 4-209, 4-212, 4-222, 4-241, 4-245, 4-248, 6-16
Custodial management	6-2
CWA	xiii, 2-86, 2-89, 2-90, 2-94, 2-110, 3-4, 3-6, 4-5, 4-6, 4-15, 4-18, 4-35, 4-174
D	
DEQ . . .	xiii, 1-6, 1-8, 2-83, 2-84, 2-86, 2-87, 2-89, 2-106, 2-110, 2-111, 2-114, 3-3, 3-4, 3-6, 4-6, 4-29, 4-73, 4-78, 4-162, 5-2
Desired Range of Conditions (DRC)	2-78
Developed recreation	2-94, 2-166, 2-168, 3-60, 4-132, 4-139, 4-144, 4-213, 4-215, 4-219, 4-221, 6-2, 6-3

Dispersed recreation	1-6, 2-79, 2-166-2-169, 3-59, 3-60, 4-26, 4-27, 4-90, 4-112, 4-118, 4-128, 4-130, 4-132, 4-134, 4-139, 4-144-4-146, 4-169, 4-172, 4-173, 4-177, 4-181, 4-185, 4-213-4-217, 4-219-4-221, 4-227, 6-3
Disposal	1-7, 2-110, 2-137, 2-138, 2-149-2-153, 2-157, 2-169, 2-208, 2-217, 3-55, 3-56, 4-3-4-5, 4-91, 4-105, 4-136, 4-142, 4-154, 4-155, 4-158, 4-159, 4-179, 4-180, 4-195-4-205, 4-235, 4-240, 4-243, 6-2, 6-5

E

EA	xiii, 1-2, 1-8, 2-104, 2-159, 2-219, 3-15, 3-62, 4-8, 4-63, 4-81, 4-105, 4-161, 4-236, 6-3, 6-22, 6-23
Ecological Site Inventory (ESI)	6-3
Ecological Status	1-4, 2-83, 2-90, 2-93, 2-94, 2-100, 2-106, 2-115, 2-189, 2-190, 3-7, 3-10, 3-51, 3-52, 4-7, 4-9, 4-11-4-16, 4-23, 4-24, 4-26-4-35, 4-66, 4-71, 4-73-4-77, 4-79, 4-80, 4-82, 4-84, 4-86, 4-88, 4-92-4-94, 4-101, 4-102, 4-110, 4-113, 4-115, 4-124, 4-125, 4-146, 4-168, 4-171, 4-172, 4-174, 4-176, 4-179, 4-180, 4-182, 4-183, 4-187, 4-188, 4-190, 6-1, 6-3, 6-10
Ecosystem	i, xiii, 1-3, 1-10, 1-12, 2-2, 2-78-2-81, 2-87, 2-91, 2-96, 2-107, 2-109, 2-112-2-114, 2-146, 2-147, 2-200, 2-201, 2-218, 3-7, 3-8, 3-27, 3-31, 3-33, 4-49, 4-57, 4-84, 4-90, 4-100, 4-102, 4-103, 4-105, 4-106, 4-108-4-110, 4-112, 4-115, 4-122, 4-191, 4-192, 4-227, 4-240, 4-244, 5-1, 6-3-6-6, 6-14-6-16, 6-19, 6-20, 6-22
Ecosystem Management	i, xiii, 1-10, 1-12, 2-2, 2-79, 2-81, 2-107, 2-109, 2-112-2-114, 4-49, 4-57, 4-90, 4-100, 4-102, 4-103, 4-105, 4-106, 4-108, 4-109, 4-112, 4-115, 6-3, 6-5, 6-14-6-16, 6-19, 6-20, 6-22
EIS	i-iii, xii, xiii, S-1, S-2, 1-1-1-4, 1-6, 1-9-1-12, 2-1, 2-2, 2-78, 2-80, 2-82, 2-104, 2-125, 2-220, 3-33, 3-37, 3-50, 3-56, 3-57, 3-66, 4-235, 5-1, 5-4, 5-6, 6-1, 6-3, 6-5-6-7, 6-21
Endangered Species Act (ESA)	6-3
Energy and Minerals	S-1, 2-126, 2-133, 2-150, 3-41, 4-3-4-5, 4-10, 4-12, 4-14, 4-16, 4-18, 4-25, 4-26, 4-31, 4-33-4-36, 4-57, 4-58, 4-60-4-62, 4-64-4-68, 4-80, 4-83, 4-85, 4-87, 4-89, 4-92-4-96, 4-103, 4-108, 4-111, 4-114, 4-117-4-119, 4-130, 4-147-4-151, 4-153-4-157, 4-159-4-161, 4-165, 4-173, 4-174, 4-176, 4-179-4-183, 4-198, 4-210, 4-213, 4-242, 5-6
Environmental Assessment (EA)	1-2, 6-3
Environmental Impact Statement (EIS)	i-1-1, 6-3
Environmental Protection Agency (EPA)	2-84
EPA	xiii, 2-84, 2-86, 2-87, 3-4, 3-6, 3-66
Ephemeral stream	6-3
ERMA	xiii, 2-165, 2-166, 3-60, 4-215, 6-3
ESA	xiii, 2-90, 2-94, 3-17, 3-21, 3-22, 3-26, 3-29, 3-31, 4-91, 4-98, 4-119, 4-120, 4-174, 6-2, 6-3
Exclusion Areas	1-7, 2-128, 2-130, 2-131, 2-133, 2-150, 2-154, 2-155, 4-25, 4-26, 4-87, 4-149-4-151, 4-201-4-203, 6-3
Extensive Recreation Management Areas (ERMA)	2-165

F

FAR	xiii, 3-10, 3-27, 4-37, 4-156, 4-242, 6-4
Federal Land Policy and Management Act of 1976 (FLPMA)	6-4
Fire effects	4-143, 6-25, 6-26
Fire intensity	4-46, 4-50, 4-84, 4-110, 4-187, 4-188
Fire Management Plan (FMP)	2-146, 3-55, 6-4
Fire regime	2-99, 2-147, 2-148, 3-12, 3-53, 4-10, 4-22, 4-53, 4-54, 4-81, 4-82, 4-104, 4-106, 4-107, 4-169, 4-184, 4-185, 4-187, 4-188, 4-190, 4-192, 4-194, 6-4
Fire return interval	4-187, 4-190, 4-194, 6-4
Fire suppression	1-4, 1-5, 2-95, 2-146, 2-148, 2-218, 3-12, 3-40, 3-53-3-55, 4-8, 4-21, 4-22, 4-24, 4-25, 4-41, 4-43, 4-47, 4-52, 4-63, 4-65-4-67, 4-81, 4-87, 4-90, 4-92-4-94, 4-96, 4-99, 4-104, 4-106, 4-114, 4-118, 4-119, 4-131, 4-132, 4-138, 4-139, 4-143, 4-147, 4-148, 4-152, 4-169, 4-175, 4-184, 4-187-4-191, 4-193, 4-194, 4-206, 4-235-4-237, 4-240, 4-242, 6-8
Fish and Wildlife	ii, xiii, xiv, 1-5, 1-12, 2-92, 2-93, 2-106-2-108, 2-110, 2-111, 2-115, 2-163, 2-200, 2-201, 2-221, 3-15, 3-33, 3-41, 3-55, 3-58, 3-59, 4-7, 4-28, 4-31, 4-33-4-36, 4-45, 4-46, 4-49-4-52, 4-57-4-61, 4-70, 4-78, 4-79, 4-82, 4-84, 4-86, 4-88, 4-98, 4-100, 4-103, 4-108, 4-111, 4-114, 4-116, 4-117, 4-120, 4-122, 4-133, 4-140, 4-145, 4-154, 4-162, 4-169, 4-171-4-174, 4-176, 4-179-4-183, 4-187, 4-190, 4-192, 4-193, 4-196, 4-206, 4-209, 4-213, 4-246-4-248, 5-3, 5-4, 5-6, 6-1, 6-2, 6-6, 6-13-6-15, 6-17-6-20, 6-22, 6-23, 6-25, 6-26
Flood plain	3-9, 6-4
FLPMA	xiii, 1-1, 1-2, 2-92, 2-93, 2-100, 2-102, 2-104, 2-106, 2-108, 2-116, 2-123, 2-125, 2-133, 2-136, 2-137, 2-143, 2-149-2-151, 2-157, 2-165, 2-174, 2-199, 2-220, 2-221, 3-35, 3-45, 3-51, 3-55, 3-57, 3-61,

	3-64, 4-128, 4-130, 4-132, 4-145, 4-152, 4-163, 4-195, 4-196, 4-205, 4-242, 6-4, 6-11
FMP	xiii, 2-146, 2-149, 3-55, 4-8, 4-99, 6-4
Fuels	1-6, 2-78, 2-86, 2-95, 2-96, 2-147-2-149, 3-12, 3-53, 3-54, 4-10, 4-21, 4-32, 4-44, 4-45, 4-47, 4-49, 4-61, 4-133, 4-136, 4-139, 4-142, 4-143, 4-153, 4-184-4-186, 4-189-4-194, 4-236, 4-243, 6-7
Functional At Risk (FAR)	6-4

G

Geographical Information System (GIS)	2-123
Geomorphology	2-90
GIS	xiii, 2-123, 3-12, 3-56, 6-4, 6-24, 6-25
Grazing Management	xii, S-1, 1-2, 1-9, 2-82, 2-91, 2-92, 2-126, 2-130, 2-143-2-146, 3-45, 3-50, 3-51, 4-6, 4-7, 4-12, 4-14, 4-16, 4-18, 4-21, 4-22, 4-25, 4-27, 4-30, 4-31, 4-33, 4-34, 4-36, 4-37, 4-58, 4-60-4-62, 4-64-4-67, 4-69, 4-72, 4-77, 4-78, 4-81, 4-83, 4-85, 4-87, 4-89, 4-92-4-96, 4-100, 4-104, 4-108, 4-111, 4-114, 4-117, 4-131, 4-132, 4-139, 4-143, 4-145, 4-146, 4-148-4-151, 4-153, 4-155-4-157, 4-159, 4-163, 4-167, 4-169, 4-171, 4-173, 4-175-4-179, 4-181-4-184, 4-189, 4-191-4-193, 4-206- 4-208, 4-224, 4-236-4-241, 4-243-4-248, 5-6, 6-16, 6-21, 6-23
Ground water	2-79, 2-94, 3-3, 3-6, 3-10, 3-50, 4-6, 4-7, 4-10, 4-11, 4-19, 4-29, 4-31, 4-32, 4-35, 4-37, 4-71, 4-72

H

Herd Management Area Plan	6-4, 6-23
Herd Management Areas (HMAs)	1-2
HMAs	xiii, 1-2, 1-7, 2-128, 2-130, 2-131, 2-139-2-142, 2-152, 3-44, 3-45, 4-10, 4-12, 4-20, 4-31, 4-35, 4-57, 4-64, 4-80, 4-89, 4-91, 4-104, 4-117, 4-123-4-126, 4-166-4-171, 4-173, 4-175, 4-177, 4-178, 4-181, 6-4, 6-25

I

ICBEMP	xiii, 1-1, 1-9, 1-12, 2-2, 2-78, 3-27, 3-29, 3-37, 5-1, 6-5
ID Team	xiii, 3-61, 4-10, 4-89, 4-103, 4-117, 4-176, 4-186, 5-1, 5-2
IMP	xiii, xiv, 1-2, 1-11, 2-113, 2-130, 2-134-2-138, 2-159, 2-162, 2-180, 2-181, 2-184-2-190, 2-195, 2-196, 2-220, 2-221, 3-33, 3-52, 3-54-3-56, 3-61, 3-64, 3-65, 4-8, 4-100, 4-152, 4-160, 4-161, 4-163, 4-165, 4-166, 4-223-4-228, 4-230-4-232, 4-242-4-245, 6-11
Instream flow	3-3
Interim Management Policy	xiii, xiv, 1-2, 1-11, 2-113, 6-11, 6-22, 6-23
Intermittent stream	4-19, 6-4

J

K

Known Geothermal Resource Area	3-42, 6-5
--------------------------------	-----------

L

Land Use Authorizations	1-7, 2-106, 2-133, 2-153, 3-40, 3-56, 3-57, 4-155, 4-195, 6-1, 6-3, 6-5
Lands and Realty	S-1, 2-126, 2-136, 2-149, 3-55, 4-30, 4-81, 4-83, 4-85, 4-87, 4-89, 4-93, 4-105, 4-109, 4-112, 4-114, 4-117, 4-130, 4-137, 4-142, 4-147-4-151, 4-153-4-156, 4-158, 4-159, 4-163, 4-179, 4-180, 4-182, 4-183, 4-195, 4-196, 4-203, 4-235, 4-243, 5-6
Leasable Minerals	2-129, 2-139, 2-187, 2-190, 2-196, 3-43, 4-160, 4-164-4-166, 4-228, 6-5
Locatable Minerals	2-129, 2-133, 2-134, 2-139, 2-180, 3-42, 4-103, 4-147, 4-151, 4-160, 4-162-4-165, 4-223, 6-5

M

Management Concern	6-5
Management Direction	xii, S-1-1-2, 1-10, 2-80, 2-81, 2-84, 2-87, 2-91, 2-93, 2-95, 2-97, 2-99, 2-100, 2-102, 2-104, 2-106, 2-110, 2-115, 2-117-2-119, 2-122-2-124, 2-126, 2-135, 2-136, 2-138, 2-139, 2-143, 2-146, 2-147, 2-149, 2-150, 2-159, 2-162, 2-165, 2-166, 2-180, 2-208, 2-220, 4-72, 4-78, 4-83, 4-127, 4-145, 4-214, 4-216, 4-217, 4-219, 4-223, 4-231, 4-242, 6-3, 6-5
Management Framework Plan (MFP)	6-5

Management Opportunities	1-1, 2-90, 2-94, 4-15, 4-18, 4-75, 5-1, 6-5
Map unit	6-5, 6-9
Mechanical treatment	4-43, 4-48
Mechanized vehicle .	2-162-2-165, 3-58, 4-22, 4-25-4-28, 4-32-4-34, 4-36, 4-37, 4-58, 4-60, 4-65-4-69, 4-81, 4-83, 4-86, 4-87, 4-90, 4-92-4-96, 4-106, 4-109, 4-112, 4-115, 4-118, 4-120, 4-132, 4-138, 4-139, 4-144, 4-147, 4-148, 4-150-4-159, 4-169, 4-172, 4-175, 4-177, 4-209-4-213, 4-215-4-218, 4-220, 4-222-4-225, 4-227-4-233, 4-242-4-245, 6-5
Migration corridor	6-5
Mineral Estate	S-1, 1-7, 2-127, 2-134, 2-135, 2-137, 3-41, 4-160, 4-163, 4-195, 6-5
Mining claims	2-133, 2-134, 2-139, 3-42, 4-162-4-164, 6-5
Mitigation	1-7, 2-80, 2-86, 2-110, 2-111, 3-24, 3-26, 4-2, 4-38, 4-81, 4-97, 4-98, 4-105, 4-127, 4-128, 4-134, 4-147, 4-161-4-165, 4-196, 4-198, 6-5
MOAs	xiii, 2-92
Monitoring	1-2, 1-3, 1-8, 2-2, 2-79-2-82, 2-86, 2-87, 2-89-2-92, 2-95, 2-99, 2-103, 2-105, 2-106, 2-108, 2-110, 2-111, 2-114, 2-119, 2-122, 2-123, 2-125, 2-126, 2-130, 2-133, 2-139, 2-141-2-146, 2-149, 2-157, 2-162, 2-165, 2-174, 2-180, 2-198, 2-200-2-217, 2-221, 3-8, 3-10, 3-18, 3-21, 3-44, 3-50, 4-1, 4-6, 4-8, 4-20, 4-24, 4-26, 4-27, 4-29, 4-43, 4-48, 4-56, 4-57, 4-63, 4-64, 4-68-4-70, 4-73, 4-78, 4-81, 4-89, 4-90, 4-92, 4-95, 4-99, 4-100, 4-104, 4-117, 4-118, 4-120, 4-122, 4-131, 4-134, 4-135, 4-138, 4-143, 4-153, 4-167, 4-206, 4-222, 4-235, 4-237-4-240, 6-1, 6-6, 6-18
Monitoring and evaluation	1-3, 2-81, 4-6, 6-6
MOU	xiii, 2-106, 2-109, 2-173, 2-174, 3-21, 4-215, 5-2
Multiple Use ...	S-2, 1-1, 1-3, 1-10, 2-92, 2-109, 2-143, 2-144, 2-165, 2-220, 3-15, 3-16, 3-36, 3-50, 3-61, 6-6, 6-10
N	
National Environmental Policy Act of 1969 (NEPA)	6-6
Native American Traditional Practices	2-123, 3-35, 4-2, 4-39, 4-43, 4-48, 4-140-4-145, 4-155, 4-156, 4-162, 4-209, 4-213
Naturalness ..	3-62, 4-131, 4-138, 4-143, 4-148, 4-149, 4-211, 4-215, 4-219, 4-221, 4-235-4-241, 4-243-4-245, 6-6, 6-7
NEPA .	xiii, S-2, 1-1, 1-2, 1-10, 2-1, 2-2, 2-81, 2-87, 2-110, 2-123, 2-125, 2-134, 2-135, 2-153-2-155, 2-157, 2-214, 3-52, 3-63, 4-2, 4-10, 4-71, 4-81, 4-91, 4-105, 4-128, 4-132, 4-161-4-164, 4-195, 4-196, 4-239, 6-3, 6-6, 6-7, 6-15, 6-25
No surface occupancy (NSO)	2-128
Noxious weed ...	1-2, 1-8, 1-11, 2-104, 2-105, 2-110, 3-15, 3-16, 4-7, 4-20-4-22, 4-26, 4-27, 4-31, 4-33, 4-34, 4-37, 4-38, 4-46, 4-51, 4-58-4-70, 4-72, 4-78, 4-80, 4-82, 4-89, 4-91-4-98, 4-100, 4-103, 4-129, 4-142, 4-151, 4-167, 4-182, 4-183, 4-236-4-239, 6-6, 6-18, 6-21, 6-23
NSO	xiii, 2-128, 2-130, 2-131, 2-136, 2-137, 2-177-2-179, 2-187, 2-190, 2-196, 3-43, 4-10, 4-14, 4-16, 4-25, 4-103, 4-130, 4-137, 4-161, 4-227, 4-229
NWR	2-115, 2-154-2-156, 3-20, 3-21, 3-29, 3-30, 3-40, 3-41, 3-60, 5-2, 5-3, 6-6
O	
Objectives (management)	6-6
ODFW	xiii, 1-5, 1-8, 1-11, 2-93-2-95, 2-101, 2-103, 2-106-2-116, 3-3, 3-15, 3-17, 3-21, 3-22, 3-27-3-31, 3-33, 3-40, 3-55, 3-59, 3-60, 4-29, 4-35, 4-70, 4-77-4-79, 4-84, 4-86, 4-88, 4-98, 4-99, 4-101, 4-103, 4-107, 4-110, 4-111, 4-113, 4-115, 4-123, 4-127, 4-169, 4-224, 5-3
OHV	xiii, 1-6, 1-8, 2-92, 2-121, 2-126-2-128, 2-131-2-133, 2-162-2-165, 2-176, 2-179, 2-181-2-198, 2-220, 2-221, 3-34, 3-40, 3-58-3-61, 4-22, 4-24-4-28, 4-32-4-34, 4-36-4-38, 4-58, 4-60-4-63, 4-65-4-69, 4-81, 4-83, 4-86, 4-87, 4-90, 4-92-4-97, 4-106, 4-109, 4-112, 4-115, 4-118, 4-120, 4-128, 4-131-4-135, 4-138-4-140, 4-143-4-145, 4-147, 4-148, 4-150-4-159, 4-169, 4-172, 4-173, 4-175, 4-177, 4-181, 4-187, 4-189, 4-191, 4-209-4-213, 4-215-4-218, 4-220, 4-222-4-225, 4-227-4-233, 4-236-4-238, 4-240, 4-241, 4-243-4-245, 6-6
Oregon Agricultural Information Network (OAIN)	6-18
Oregon Department of Agriculture (ODA)	3-15
Oregon Department of Environmental Quality (DEQ)	1-6
Oregon Department of Fish and Wildlife (ODFW)	1-5
Oregon Department of Forestry (ODF)	2-83
Oregon Final Wilderness EIS	2-220
Oregon Smoke Management Plan	4-2
Oregon Water Resources Department (OWRD)	3-3

ORV xiii, 2-222, 2-223, 4-119

P

Paleontological Resources S-1, 2-116-2-118, 3-33, 4-2, 4-39, 4-43, 4-48, 4-127-4-133, 4-162, 4-209, 4-213
Payments in Lieu of Taxes (PILT) 2-126
PFC ... xiii, 1-5, 2-87, 2-90, 2-93-2-95, 2-105, 2-115, 3-10, 4-7, 4-9, 4-11-4-13, 4-15, 4-17-4-19, 4-28-4-33, 4-35,
4-37, 4-71-4-79, 4-86, 4-88, 4-89, 4-101, 4-113, 4-115, 4-123, 4-174, 4-175, 4-179, 4-185, 4-248,
6-7, 6-24
pH value 6-6
Physiographic Province 3-1
PILT xiii, 2-126, 3-40, 4-153, 4-154
Planning Area i, ii, xi, xiii, S-1, S-2, 1-1, 1-2, 1-6-1-12, 2-78, 2-81-2-84, 2-86, 2-88, 2-91, 2-93, 2-100, 2-101,
2-103, 2-104, 2-106, 2-107, 2-109, 2-112, 2-116-2-125, 2-127-2-132, 2-134-2-138, 2-146, 2-147,
2-149-2-151, 2-153-2-155, 2-158, 2-163-2-174, 2-181, 2-182, 2-184-2-186, 2-188-2-196, 2-198,
2-199, 3-1-3-22, 3-26-3-36, 3-38-3-46, 3-49-3-62, 3-64-3-66, 4-1-4-6, 4-10-4-14, 4-16, 4-19, 4-20,
4-22-4-26, 4-28, 4-29, 4-32-4-37, 4-47, 4-54, 4-56-4-58, 4-60, 4-63-4-65, 4-67-4-71, 4-73, 4-76-
4-78, 4-83-4-89, 4-91-4-93, 4-95, 4-96, 4-98, 4-99, 4-101, 4-103, 4-108-4-113, 4-116, 4-118,
4-119, 4-128, 4-129, 4-132-4-141, 4-144-4-161, 4-163-4-166, 4-171, 4-172, 4-174-4-176, 4-179-
4-181, 4-183, 4-184, 4-187, 4-188, 4-190-4-194, 4-197-4-199, 4-201, 4-202, 4-204, 4-205, 4-209-
4-222, 4-233, 4-236, 4-243, 4-245, 6-3, 6-8, 6-23
Playa lake 6-6
Pluvial lake 3-31, 6-6
Point source pollution 6-6
Preferred Alternative or Plan 6-7
Prescribed burning 2-97, 3-53, 3-54, 4-46, 4-62, 4-79, 4-102, 4-131, 4-143, 4-186, 4-187, 6-7, 6-13
PRIA xiii, 2-92, 2-100, 2-102, 2-104, 2-106, 2-143, 3-45, 3-51
Primary wilderness values 6-7, 6-10
Primitive and unconfined recreation 3-63, 4-236-4-238, 4-240, 4-241, 4-243-4-245, 6-7
Proper functioning condition (PFC) 1-5, 6-7
Protocol xiii, 2-87, 2-119, 3-3, 3-6, 4-24, 4-26, 4-27, 4-227-4-230, 6-20

Q

R

R&PP xiii, 2-152, 2-153, 3-56, 6-5
RAC xiv, 1-4, 3-50
RAMP 2-167, 2-168, 3-60
Range site 6-3, 6-7
Rangeland xii, 1-2, 1-4, 1-5, 1-11, 2-1, 2-78, 2-82, 2-84, 2-91, 2-92, 2-100, 2-102, 2-104, 2-106, 2-109, 2-114,
2-126-2-128, 2-130-2-133, 2-141-2-146, 3-2, 3-15, 3-20, 3-34, 3-45, 3-50-3-52, 3-54, 4-4-4-6,
4-20-4-23, 4-25-4-27, 4-31, 4-32, 4-34-4-38, 4-55, 4-57-4-69, 4-79, 4-81-4-83, 4-88, 4-89, 4-92-
4-97, 4-102, 4-104, 4-107, 4-108, 4-116, 4-117, 4-129, 4-133, 4-136, 4-140, 4-141, 4-145, 4-148,
4-153, 4-157, 4-166, 4-168, 4-171, 4-182, 4-189, 4-237, 6-2, 6-7, 6-9, 6-17, 6-21-6-23, 6-25, 6-26
RCA xiv, 4-76
Record of Decision (ROD) 1-1, 6-7
Recreation i, xiii, xiv, S-1, 1-2, 1-4-1-9, 1-11, 2-1, 2-2, 2-78, 2-79, 2-82, 2-83, 2-86, 2-92-2-95, 2-102, 2-115,
2-119, 2-120, 2-126-2-128, 2-131-2-133, 2-135, 2-137, 2-138, 2-150, 2-151, 2-158-2-161, 2-165-
2-171, 2-173, 2-174, 2-180, 2-199, 2-218, 2-219, 2-221, 3-3, 3-33-3-35, 3-40, 3-41, 3-51, 3-55,
3-58-3-61, 3-63, 3-65, 4-6, 4-9, 4-10, 4-13, 4-15-4-20, 4-22, 4-24-4-28, 4-32-4-34, 4-36-4-38,
4-49, 4-63, 4-65-4-69, 4-72, 4-73, 4-76, 4-81, 4-83, 4-86-4-88, 4-90, 4-92-4-97, 4-101, 4-106,
4-109, 4-112, 4-113, 4-115, 4-116, 4-118-4-120, 4-122, 4-124-4-128, 4-130, 4-132, 4-134, 4-137,
4-139, 4-144-4-146, 4-149, 4-152-4-160, 4-169, 4-172, 4-173, 4-175, 4-177, 4-181-4-183, 4-185,
4-191, 4-206-4-208, 4-210-4-224, 4-226, 4-227, 4-234-4-248, 5-6, 6-2, 6-3, 6-5, 6-7, 6-9, 6-12,
6-16, 6-18, 6-19, 6-21, 6-22, 6-25
Recreation Management Information Systems (RMIS) 2-133
Recreation site 2-166-2-168, 3-60, 4-63, 4-214, 4-215, 4-217, 4-219, 4-221, 6-3, 6-7
Rehabilitation . 1-4, 1-6, 2-92, 2-99, 2-147-2-149, 3-7, 3-37, 3-51, 3-54, 4-8, 4-9, 4-21, 4-22, 4-24-4-28, 4-32, 4-34,
4-38, 4-40-4-42, 4-47, 4-53, 4-57, 4-59, 4-64, 4-66-4-69, 4-81-4-83, 4-85, 4-87, 4-89, 4-94, 4-97-

	4-99, 4-102, 4-105, 4-106, 4-108, 4-109, 4-112-4-114, 4-116, 4-117, 4-136, 4-141, 4-146, 4-162, 4-169, 4-171-4-173, 4-175, 4-177, 4-179-4-181, 4-184-4-191, 4-194, 4-206, 4-209, 4-236-4-238, 4-240, 4-243, 4-244
Research Natural Area (RNA)	6-8
Resource advisor	3-55, 6-8
Resource Area Profile	5-1, 6-8
Resource Management Plan (RMP)	i, S-1, 6-5, 6-8
Rights-of-way (ROWs)	1-7
Risk assessment	6-8
RMIS	2-133
ROD	xii, xiv, 1-2, 1-3, 1-12, 3-15, 6-7
ROWs	1-7, 2-82, 2-105, 2-128, 2-131, 2-149, 2-150, 2-153, 2-154, 2-176, 2-179, 2-181-2-198, 3-40, 3-56, 3-57, 4-30, 4-44, 4-49, 4-57, 4-61, 4-67, 4-68, 4-81, 4-105, 4-116, 4-147, 4-155-4-157, 4-159, 4-195-4-199, 4-201-4-203, 4-205, 4-224, 4-225, 4-227, 4-228, 4-230-4-233, 4-235, 4-242
RTR	xiv, 1-1, 1-6, 2-115, 2-221, 3-18, 3-33, 4-122-4-127
S	
S&Gs	xiv, 2-91, 2-92, 2-100, 2-102, 2-126, 2-128, 2-130-2-133, 2-143-2-145, 2-214, 3-50, 4-1, 4-21, 4-56-4-58, 4-80, 4-87, 4-89, 4-102, 4-108, 4-113, 4-117, 4-167, 4-176, 4-178, 4-189, 4-192, 4-237, 4-239
Saleable Minerals	2-126-2-128, 2-130-2-132, 2-137-2-139, 3-43, 4-10, 4-12, 4-14, 4-16, 4-18, 4-21, 4-37, 4-93-4-95, 4-103, 4-160, 4-162, 4-163, 4-166, 6-8
Scenic river	xi, xiv, 1-1, 1-2, 2-88, 2-221, 2-222, 3-41, 3-56, 6-8, 6-22
Scoping	xii, 1-2-1-4, 1-9, 5-1, 5-2, 5-4, 6-8
Section 202 lands	6-8
Sensitive species	2-78, 2-200, 2-201, 3-27, 3-33, 6-2, 6-8, 6-9, 6-18
SEORMP	xiv, 1-1, 1-2, 2-139, 2-140, 2-222, 3-29, 3-36, 3-44, 3-65, 5-1, 6-22
Seral	2-78, 2-92, 2-95, 2-189, 2-190, 3-51, 3-52, 4-20, 4-23, 4-29, 4-62, 4-79, 4-93, 4-101, 4-146, 6-3, 6-8-6-10
Seral stage	2-95, 4-20, 4-23, 4-29, 4-79, 4-101, 4-146, 6-3, 6-9
SHPO	2-119
SIP	xiv, 2-83, 6-9
SMAC	xiv, 1-4, 2-99, 2-115, 2-116, 3-33, 3-52, 4-123, 5-2, 5-3, 5-6
Social and Economic Values	S-1, 2-125, 2-126, 2-132, 3-36, 4-40-4-44, 4-46-4-49, 4-51, 4-52, 4-130, 4-137, 4-142, 4-152, 4-153, 4-155, 4-159, 4-163, 4-187, 4-208, 4-213, 4-216, 4-218, 4-220, 4-221, 4-235, 4-241, 5-3, 5-6
Soils and Biological Soil Crusts	2-91, 3-7, 4-8, 4-11, 4-13, 4-15, 4-17, 4-19, 4-20, 4-25-4-28, 4-39, 4-49, 4-51, 4-52, 4-56, 4-101, 4-110, 4-113, 4-115, 4-162, 4-185, 4-188, 4-191, 4-193
Solitude	2-201, 2-202, 2-205, 2-210, 2-213, 2-219, 3-40, 3-62, 3-63, 4-155, 4-156, 4-160, 4-211, 4-212, 4-215, 4-219, 4-221, 4-234-4-241, 4-243-4-245, 6-7, 6-9
Southeast Oregon Resource Advisory Council (RAC)	1-4
Southeastern Oregon Resource Management Plan (SEORMP)	1-1, 6-22
Special Status species	S-1, 1-4, 1-5, 2-106, 2-108-2-114, 2-128, 2-130, 2-131, 2-135, 2-137, 2-138, 2-152, 2-221, 3-18, 3-21, 3-22, 3-50, 4-2, 4-7, 4-9, 4-11, 4-12, 4-14, 4-16-4-18, 4-25, 4-30, 4-34, 4-35, 4-37-4-39, 4-43, 4-45, 4-48-4-52, 4-57, 4-58, 4-60-4-62, 4-71, 4-73, 4-78, 4-88, 4-91, 4-93, 4-94, 4-97-4-122, 4-141, 4-153, 4-164, 4-167, 4-173, 4-177, 4-181, 4-185, 4-189, 4-190, 4-192, 4-193, 4-196, 4-197, 4-199, 4-200, 4-202, 4-209, 4-213, 4-230, 5-6, 6-9
SRP	xiv, 2-170, 3-40, 3-61, 4-214, 4-215, 4-217-4-220, 4-222
State Implementation Plan (SIP)	2-83, 6-9
State Listed Species	6-9
Steens Act	xiv, 1-1, 1-2, 2-2, 2-82, 2-83, 2-99, 2-109, 2-110, 2-113, 2-115, 2-126, 2-127, 2-131-2-135, 2-138, 2-139, 2-144, 2-150-2-153, 2-155-2-159, 2-162, 2-181-2-187, 2-190-2-192, 2-196, 2-197, 2-199, 2-218, 2-222, 3-12, 3-18, 3-33, 3-41, 3-43, 3-51, 3-52, 3-54, 3-56-3-58, 3-61-3-65, 4-1, 4-42, 4-81, 4-83, 4-85, 4-99, 4-105, 4-106, 4-108, 4-111, 4-119, 4-122, 4-144, 4-148, 4-149, 4-152-4-155, 4-160, 4-161, 4-166, 4-167, 4-169, 4-171, 4-173, 4-181, 4-192, 4-199, 4-200, 4-205, 4-206, 4-209, 4-210, 4-224, 4-232, 4-234, 4-235, 4-237, 4-241-4-243, 4-246-4-248, 5-1
Steens Loop Road	2-160, 2-161, 2-163-2-170, 2-173, 2-185, 2-190, 2-191, 3-40, 3-45, 3-58, 3-60, 4-24, 4-126, 4-154-4-158, 4-189, 4-193, 4-207-4-209, 4-211, 4-214-4-222, 4-229, 4-237, 4-239
Steens Mountain Loop Road	xiv, 1-2, 4-150, 4-193, 4-210-4-212, 4-217, 6-22
Steens Mountain Wilderness	i, 1-1, 2-89, 2-113, 2-115, 2-124, 2-128, 2-130, 2-131, 2-133-2-136, 2-138, 2-152-2-155, 2-159, 2-162-2-164, 2-166, 2-168-2-170, 2-182, 2-183, 2-185, 2-186, 2-190-2-192, 2-194,

2-195, 2-199, 2-200, 2-208, 2-218, 2-219, 2-222, 3-33, 3-41, 3-51, 3-52, 3-54-3-56, 3-58, 3-61, 3-62, 3-64, 3-65, 4-14, 4-16, 4-18, 4-25, 4-26, 4-71, 4-99, 4-109, 4-119, 4-122, 4-146-4-151, 4-154, 4-157, 4-160, 4-161, 4-185, 4-201, 4-206, 4-207, 4-209, 4-210, 4-214-4-217, 4-219, 4-224, 4-226, 4-227, 4-229, 4-231, 4-233-4-241, 4-246-4-248	
Subbasin review (SBR)	1-2
Summary of the Analysis of the Management Situation	1-2, 5-4, 6-25
Supplemental wilderness values	6-10

T

T&E . . . xiv, 2-1, 2-88, 2-104, 2-110, 2-130, 2-134, 2-151-2-153, 2-200, 2-201, 4-39, 4-43, 4-48, 4-91, 4-98, 4-105, 4-161, 4-162, 4-185, 4-194	
The Nature Conservancy (TNC)	2-111
Threatened Species	1-11, 3-21, 3-22, 6-10, 6-22
Three Rivers RA	xiv, 1-1, 2-175, 3-1, 3-41, 3-57, 3-62
Three Rivers Resource Area (Three Rivers RA)	1-1
TMDL	xiv, 2-88-2-90, 4-18, 4-19, 4-73
TNC	xiv, 2-111, 2-114, 4-121
Total Maximum Daily Loads (TMDL)	2-89
Transportation and Roads 2-126, 2-158, 3-57, 4-3-4-5, 4-8, 4-11, 4-22, 4-24, 4-25, 4-27, 4-30, 4-32, 4-65-4-67, 4-69, 4-81, 4-83, 4-85, 4-87, 4-90, 4-92-4-96, 4-105, 4-109, 4-112, 4-115, 4-118, 4-131, 4-138, 4-144, 4-147-4-151, 4-154, 4-155, 4-157-4-159, 4-163, 4-169, 4-172, 4-173, 4-175, 4-177, 4-181, 4-191-4-193, 4-205, 4-206, 4-210, 4-214, 4-216, 4-218, 4-220, 4-222, 5-6	

U

United States Fish and Wildlife Service (USFWS)	1-12
United States Geological Survey (USGS)	1-12
USDA	xiv, 1-1, 1-9, 1-11, 1-12, 2-2, 2-146, 3-6, 3-21, 3-22, 3-29, 3-37, 6-13, 6-14, 6-16, 6-17, 6-19, 6-23
USFS	xiii, xiv, 1-12, 2-87, 2-203, 3-6, 3-31, 3-37, 3-39, 3-59, 4-5, 4-159, 4-160, 5-1, 6-20, 6-23
USFWS xiv, 1-12, 2-101, 2-106-2-116, 2-154-2-156, 3-4, 3-17, 3-22, 3-26, 3-27, 3-29, 3-31, 3-40, 3-55, 3-59, 4-70, 4-78, 4-79, 4-84, 4-86, 4-88, 4-98, 4-99, 4-103, 4-111, 4-119, 4-120, 4-123, 4-159, 4-160, 4-169, 5-2, 5-6, 6-21-6-23, 6-25	
USGS	xiv, 1-12, 3-3, 6-12, 6-20
Utilization 2-103, 2-114, 2-142, 2-146, 2-150, 4-12, 4-14, 4-15, 4-30, 4-33, 4-35, 4-46, 4-49, 4-61, 4-62, 4-73, 4-75, 4-76, 4-80, 4-124, 4-127, 4-167, 4-168, 4-182, 4-187, 4-192, 6-10	

V

Vegetation . xii, S-1, 1-4, 1-5, 1-10, 2-78, 2-79, 2-87, 2-90-2-108, 2-110, 2-112, 2-114, 2-123, 2-139, 2-142, 2-147, 2-149, 2-197, 2-200, 2-201, 2-203, 2-204, 2-206, 2-208, 2-221, 3-3, 3-9-3-15, 3-18-3-21, 3-27- 3-29, 3-31, 3-49, 3-51-3-55, 3-60, 3-65, 4-1-4-38, 4-40, 4-41, 4-44, 4-47, 4-50-4-82, 4-84, 4-86- 4-89, 4-92-4-97, 4-100-4-104, 4-107, 4-110, 4-111, 4-113, 4-114, 4-116, 4-117, 4-119, 4-120, 4-122-4-127, 4-129, 4-136, 4-140-4-142, 4-146-4-149, 4-153, 4-157, 4-158, 4-166-4-169, 4-171- 4-176, 4-178-4-183, 4-185-4-190, 4-192-4-194, 4-213, 4-223, 4-224, 4-227, 4-229, 4-232, 4-235- 4-237, 4-239, 4-242, 4-243, 4-246-4-248, 5-6, 6-2-6-4, 6-7, 6-8, 6-10, 6-11, 6-13, 6-15-6-17, 6-22, 6-24-6-26	
Visual Resource Management (VRM)	1-4, 6-11
VRM xiv, 1-4-1-6, 2-123-2-125, 2-152, 2-176, 2-181-2-198, 2-220, 3-35, 3-36, 4-40, 4-44, 4-48, 4-145-4-152, 4-163, 4-179, 4-180, 4-182, 4-183, 4-185, 4-209, 4-213, 4-228, 4-230-4-232, 6-11	

W

Water Resources . . xiii, S-1, 2-86, 2-89, 2-95, 2-106, 2-110, 2-114, 2-204, 3-3, 4-2, 4-5-4-11, 4-13-4-16, 4-18, 4-19, 4-29, 4-32-4-34, 4-70, 4-71, 4-73-4-76, 4-78, 4-99, 4-100, 4-120, 4-121, 4-129, 4-133, 4-136, 4-140, 4-141, 4-145, 4-153, 4-157, 4-158, 4-162, 4-178, 4-179, 4-182, 4-185, 4-206, 4-209, 4-213, 4-224, 5-4, 5-6, 6-22, 6-26	
Wild and Scenic Rivers Act (WSR Act)	2-115
Wild Horses and Burros . . . 2-139, 3-44, 4-10, 4-12, 4-14, 4-16, 4-18, 4-20, 4-31, 4-33-4-35, 4-37, 4-57, 4-60, 4-61, 4-64, 4-80, 4-83, 4-85, 4-87, 4-89, 4-104, 4-108, 4-111, 4-114, 4-117, 4-123-4-127, 4-130, 4-137,	

	4-163, 4-166, 4-236-4-238, 4-240, 4-241, 5-6
Wilderness	i, xi, xiv, 1-1, 1-4-1-6, 1-8-1-11, 2-79, 2-88, 2-89, 2-95, 2-106, 2-109, 2-113, 2-115, 2-116, 2-124, 2-128, 2-130, 2-131, 2-133-2-136, 2-138, 2-150-2-155, 2-159-2-164, 2-166, 2-168-2-170, 2-172, 2-180-2-196, 2-199-2-209, 2-211, 2-214, 2-217-2-222, 3-2, 3-33, 3-36, 3-41, 3-42, 3-51, 3-52, 3-54-3-59, 3-61-3-65, 4-2, 4-8, 4-11, 4-14, 4-16, 4-18, 4-25, 4-26, 4-30, 4-35, 4-40, 4-44, 4-71, 4-76, 4-77, 4-87, 4-89, 4-99, 4-100, 4-109, 4-119, 4-120, 4-122-4-127, 4-132, 4-139, 4-144, 4-146-4-152, 4-154, 4-156-4-158, 4-160, 4-161, 4-163, 4-164, 4-185-4-187, 4-189, 4-191-4-193, 4-196, 4-201, 4-202, 4-206-4-211, 4-214-4-220, 4-223-4-227, 4-229-4-248, 5-5, 5-6, 6-6-6-12, 6-15-6-17, 6-19, 6-21, 6-22, 6-24, 6-25
Wilderness Study Areas (WSAs)	S-1, 1-4
Wilderness Study Report for Oregon	2-220
Wildland Fire Management	2-146, 3-52, 4-3-4-6, 4-8, 4-10, 4-13, 4-15, 4-16, 4-18, 4-21-4-23, 4-25, 4-27, 4-30, 4-32-4-34, 4-36, 4-37, 4-40-4-42, 4-45-4-47, 4-49-4-52, 4-64-4-67, 4-69, 4-78, 4-81, 4-83, 4-85, 4-87, 4-89, 4-92-4-94, 4-96, 4-97, 4-104, 4-108, 4-111, 4-114, 4-117, 4-147-4-151, 4-153, 4-155, 4-156, 4-158, 4-159, 4-163, 4-167, 4-169, 4-171, 4-173, 4-175, 4-177, 4-179-4-184, 4-235-4-238, 4-240-4-245
Wildland Juniper Management Area (WJMA)	1-1
Wildland urban interface (WUI)	2-146, 4-188
WJMA	xiv, 1-1, 1-6, 2-99, 2-124, 2-125, 2-168, 2-220, 3-9, 3-12, 4-3, 4-54, 4-55, 4-148-4-151, 4-162, 5-6, 6-25
WQRP	xiv, 2-89, 2-90, 2-93, 2-94, 4-8, 4-11, 4-13, 4-15, 4-17, 4-73-4-76, 4-101
WSA IMP	xiv, 1-11, 2-113, 2-130, 2-134-2-138, 2-159, 2-162, 2-180, 2-181, 2-184-2-190, 2-195, 2-196, 2-220, 2-221, 3-33, 3-52, 3-54-3-56, 3-61, 3-64, 3-65, 4-8, 4-100, 4-152, 4-160, 4-161, 4-163, 4-165, 4-166, 4-223-4-228, 4-230-4-232, 4-242-4-245, 6-11
WSAs	xiv, S-1, 1-4, 1-9, 1-10, 2-113, 2-124, 2-125, 2-128, 2-130, 2-131, 2-133-2-136, 2-138, 2-150-2-155, 2-159-2-166, 2-180, 2-186, 2-192, 2-220, 2-221, 3-36, 3-41, 3-42, 3-52, 3-54-3-56, 3-58, 3-61, 3-62, 3-64, 4-2, 4-14, 4-16, 4-18, 4-25, 4-26, 4-40, 4-44, 4-48, 4-83, 4-100, 4-109, 4-114, 4-132, 4-139, 4-144, 4-146, 4-147, 4-149-4-151, 4-156, 4-157, 4-160, 4-161, 4-163, 4-164, 4-185, 4-189, 4-195, 4-196, 4-202, 4-207-4-212, 4-215, 4-217, 4-223, 4-227, 4-242-4-248, 6-7, 6-11, 6-21, 6-24, 6-25
WSR	xiv, 1-1, 1-4, 2-115, 2-116, 2-124, 2-152, 2-180, 2-221-2-223, 3-3, 3-33, 3-56, 3-64, 3-65, 4-18, 4-71, 4-76, 4-77, 4-119, 4-122-4-127, 4-132, 4-133, 4-139, 4-140, 4-144-4-146, 4-148, 4-149, 4-223, 4-235, 4-245-4-248, 6-24
WSR Act	xiv, 2-115, 2-116, 2-180, 2-221, 2-222, 3-3, 3-33, 3-56, 3-65, 4-123-4-126, 4-223, 4-245, 4-246
WUI	xiv, 2-146, 2-148, 2-149, 4-42, 4-46, 4-184, 4-185, 4-188, 4-189, 4-193, 4-194

X

Y

Z

This Page Intentionally Left Blank

Appendix A - Steens Mountain Cooperative Management and Protection Act of 2000 (P.L. 106-399)

H. R. 4828

One Hundred Sixth Congress of the United States of America

AT THE SECOND SESSION

*Begun and held at the City of Washington on Monday,
the twenty-fourth day of January, two thousand*

An Act

To designate the Steens Mountain Wilderness Area and the Steens Mountain Cooperative Management and Protection Area in Harney County, Oregon, and for other purposes

*Be it enacted by the Senate and House of Representatives of
the United States of America in Congress assembled,*

SECTION 1. SHORT TITLE; PURPOSES; TABLE OF CONTENTS.

(a) SHORT TITLE.—This Act may be cited as the “Steens Mountain Cooperative Management and Protection Act of 2000”.

(b) PURPOSES.—The purposes of this Act are the following:

(1) To maintain the cultural, economic, ecological, and social health of the Steens Mountain area in Harney County, Oregon.

(2) To designate the Steens Mountain Wilderness Area.

(3) To designate the Steens Mountain Cooperative Management and Protection Area.

(4) To provide for the acquisition of private lands through exchange for inclusion in the Wilderness Area and the Cooperative Management and Protection Area.

(5) To provide for and expand cooperative management activities between public and private landowners in the vicinity of the Wilderness Area and surrounding lands.

(6) To authorize the purchase of land and development and nondevelopment rights.

(7) To designate additional components of the National Wild and Scenic Rivers System.

(8) To establish a reserve for redband trout and a wildlands juniper management area.

(9) To establish a citizens’ management advisory council for the Cooperative Management and Protection Area.

(10) To maintain and enhance cooperative and innovative management practices between the public and private land managers in the Cooperative Management and Protection Area.

(11) To promote viable and sustainable grazing and recreation operations on private and public lands.

(12) To conserve, protect, and manage for healthy watersheds and the long-term ecological integrity of Steens Mountain.

(13) To authorize only such uses on Federal lands in the Cooperative Management and Protection Area that are consistent with the purposes of this Act.

H. R. 4828—2

(c) TABLE OF CONTENTS.—The table of contents of this Act is as follows:

- Sec. 1. Short title; purposes; table of contents.
- Sec. 2. Definitions.
- Sec. 3. Maps and legal descriptions.
- Sec. 4. Valid existing rights.
- Sec. 5. Protection of tribal rights.

TITLE I—STEENS MOUNTAIN COOPERATIVE MANAGEMENT AND
PROTECTION AREA

Subtitle A—Designation and Purposes

- Sec. 101. Designation of Steens Mountain Cooperative Management and Protection Area.
- Sec. 102. Purpose and objectives of Cooperative Management and protection Area.

Subtitle B—Management of Federal Lands

- Sec. 111. Management authorities and purposes.
- Sec. 112. Roads and travel access.
- Sec. 113. Land use authorities.
- Sec. 114. Land acquisition authority.
- Sec. 115. Special use permits.

Subtitle C—Cooperative Management

- Sec. 121. Cooperative management agreements.
- Sec. 122. Cooperative efforts to control development and encourage conservation.

Subtitle D—Advisory Council

- Sec. 131. Establishment of advisory council.
- Sec. 132. Advisory role in management activities.
- Sec. 133. Science committee.

TITLE II—STEENS MOUNTAIN WILDERNESS AREA

- Sec. 201. Designation of Steens Mountain Wilderness Area.
- Sec. 202. Administration of Wilderness Area.
- Sec. 203. Water rights.
- Sec. 204. Treatment of wilderness study areas.

TITLE III—WILD AND SCENIC RIVERS AND TROUT RESERVE

- Sec. 301. Designation of streams for wild and scenic river status in Steens Mountain area.
- Sec. 302. Donner und Blitzen River redband trout reserve.

TITLE IV—MINERAL WITHDRAWAL AREA

- Sec. 401. Designation of mineral withdrawal area.
- Sec. 402. Treatment of State lands and mineral interests.

TITLE V—ESTABLISHMENT OF WILDLANDS JUNIPER MANAGEMENT AREA

- Sec. 501. Wildlands juniper management area.
- Sec. 502. Release from wilderness study area status.

TITLE VI—LAND EXCHANGES

- Sec. 601. Land exchange, Roaring Springs Ranch.
- Sec. 602. Land exchanges, C M. Otley and Otley Brothers.
- Sec. 603. Land exchange, Tom J. Davis Livestock, Incorporated.
- Sec. 604. Land exchange, Lowther (Clemens) Ranch.
- Sec. 605. General provisions applicable to land exchanges.

TITLE VII—FUNDING AUTHORITIES

- Sec. 701. Authorization of appropriations.
- Sec. 702. Use of land and water conservation fund.

SEC. 2. DEFINITIONS.

In this Act:

(1) ADVISORY COUNCIL.—The term “advisory council” means the Steens Mountain Advisory Council established by title IV.

(2) COOPERATIVE MANAGEMENT AGREEMENT.—An agreement to plan or implement (or both) cooperative recreation,

H. R. 4828—3

ecological, grazing, fishery, vegetation, prescribed fire, cultural site protection, wildfire or other measures to beneficially meet public use needs and the public land and private land objectives of this Act.

(3) COOPERATIVE MANAGEMENT AND PROTECTION AREA.—The term “Cooperative Management and Protection Area” means the Steens Mountain Cooperative Management and Protection Area designated by title I.

(4) EASEMENTS.—

(A) CONSERVATION EASEMENT.—The term “conservation easement” means a binding contractual agreement between the Secretary and a landowner in the Cooperative Management and Protection Area under which the landowner, permanently or during a time period specified in the agreement, agrees to conserve or restore habitat, open space, scenic, or other ecological resource values on the land covered by the easement.

(B) NONDEVELOPMENT EASEMENT.—The term “non-development easement” means a binding contractual agreement between the Secretary and a landowner in the Cooperative Management and Protection Area that will, permanently or during a time period specified in the agreement—

(i) prevent or restrict development on the land covered by the easement; or

(ii) protect open space or viewshed.

(5) ECOLOGICAL INTEGRITY.—The term “ecological integrity” means a landscape where ecological processes are functioning to maintain the structure, composition, activity, and resilience of the landscape over time, including—

(A) a complex of plant communities, habitats and conditions representative of variable and sustainable successional conditions; and

(B) the maintenance of biological diversity, soil fertility, and genetic interchange.

(6) MANAGEMENT PLAN.—The term “management plan” means the management plan for the Cooperative Management and Protection Area and the Wilderness Area required to be prepared by section 111(b).

(7) REDBAND TROUT RESERVE.—The term “Redband Trout Reserve” means the Donner und Blitzen Redband Trout Reserve designated by section 302.

(8) SECRETARY.—The term “Secretary” means the Secretary of the Interior, acting through the Bureau of Land Management.

(9) SCIENCE COMMITTEE.—The term “science committee” means the committee of independent scientists appointed under section 133.

(10) WILDERNESS AREA.—The term “Wilderness Area” means the Steens Mountain Wilderness Area designated by title II.

SEC. 3. MAPS AND LEGAL DESCRIPTIONS.

(a) PREPARATION AND SUBMISSION.—As soon as practicable after the date of the enactment of this Act, the Secretary shall prepare and submit to Congress maps and legal descriptions of the following:

(1) The Cooperative Management and Protection Area.

(2) The Wilderness Area.

H. R. 4828—4

(3) The wild and scenic river segments and redband trout reserve designated by title III.

(4) The mineral withdrawal area designated by title IV.

(5) The wildlands juniper management area established by title V.

(6) The land exchanges required by title VI.

(b) **LEGAL EFFECT AND CORRECTION.**—The maps and legal descriptions referred to in subsection (a) shall have the same force and effect as if included in this Act, except the Secretary may correct clerical and typographical errors in such maps and legal descriptions.

(c) **PUBLIC AVAILABILITY.**—Copies of the maps and legal descriptions referred to in subsection (a) shall be on file and available for public inspection in the Office of the Director of the Bureau of Land Management and in the appropriate office of the Bureau of Land Management in the State of Oregon.

SEC. 4. VALID EXISTING RIGHTS.

Nothing in this Act shall effect any valid existing right.

SEC. 5. PROTECTION OF TRIBAL RIGHTS.

Nothing in this Act shall be construed to diminish the rights of any Indian tribe. Nothing in this Act shall be construed to diminish tribal rights, including those of the Burns Paiute Tribe, regarding access to Federal lands for tribal activities, including spiritual, cultural, and traditional food gathering activities.

TITLE I—STEENS MOUNTAIN COOPERATIVE MANAGEMENT AND PROTECTION AREA

Subtitle A—Designation and Purposes

SEC. 101. DESIGNATION OF STEENS MOUNTAIN COOPERATIVE MANAGEMENT AND PROTECTION AREA.

(a) **DESIGNATION.**—The Secretary shall designate the Steens Mountain Cooperative Management and Protection Area consisting of approximately 425,550 acres of Federal land located in Harney County, Oregon, in the vicinity of Steens Mountain, as generally depicted on the map entitled “Steens Mountain Boundary Map” and dated September 18, 2000.

(b) **CONTENTS OF MAP.**—In addition to the general boundaries of the Cooperative Management and Protection Area, the map referred to in subsection (a) also depicts the general boundaries of the following:

(1) The no livestock grazing area described in section 113(e).

(2) The mineral withdrawal area designated by title IV.

(3) The wildlands juniper management area established by title V.

SEC. 102. PURPOSE AND OBJECTIVES OF COOPERATIVE MANAGEMENT AND PROTECTION AREA.

(a) **PURPOSE.**—The purpose of the Cooperative Management and Protection Area is to conserve, protect, and manage the long-

H. R. 4828—5

term ecological integrity of Steens Mountain for future and present generations.

(b) OBJECTIVES.—To further the purpose specified in subsection (a), and consistent with such purpose, the Secretary shall manage the Cooperative Management and Protection Area for the benefit of present and future generations—

(1) to maintain and enhance cooperative and innovative management projects, programs and agreements between tribal, public, and private interests in the Cooperative Management and Protection Area;

(2) to promote grazing, recreation, historic, and other uses that are sustainable;

(3) to conserve, protect and to ensure traditional access to cultural, gathering, religious, and archaeological sites by the Burns Paiute Tribe on Federal lands and to promote cooperation with private landowners;

(4) to ensure the conservation, protection, and improved management of the ecological, social, and economic environment of the Cooperative Management and Protection Area, including geological, biological, wildlife, riparian, and scenic resources; and

(5) to promote and foster cooperation, communication, and understanding and to reduce conflict between Steens Mountain users and interests.

Subtitle B—Management of Federal Lands

SEC. 111. MANAGEMENT AUTHORITIES AND PURPOSES.

(a) IN GENERAL.—The Secretary shall manage all Federal lands included in the Cooperative Management and Protection Area pursuant to the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 et seq.) and other applicable provisions of law, including this Act, in a manner that—

(1) ensures the conservation, protection, and improved management of the ecological, social and economic environment of the Cooperative Management and Protection Area, including geological, biological, wildlife, riparian, and scenic resources, North American Indian tribal and cultural and archaeological resource sites, and additional cultural and historic sites; and

(2) recognizes and allows current and historic recreational use.

(b) MANAGEMENT PLAN.—Within 4 years after the date of the enactment of this Act, the Secretary shall develop a comprehensive plan for the long-range protection and management of the Federal lands included in the Cooperative Management and Protection Area, including the Wilderness Area. The plan shall—

(1) describe the appropriate uses and management of the Cooperative Management and Protection Area consistent with this Act;

(2) incorporate, as appropriate, decisions contained in any current or future management or activity plan for the Cooperative Management and Protection Area and use information developed in previous studies of the lands within or adjacent to the Cooperative Management and Protection Area;

(3) provide for coordination with State, county, and private local landowners and the Burns Paiute Tribe; and

H. R. 4828—6

(4) determine measurable and achievable management objectives, consistent with the management objectives in section 102, to ensure the ecological integrity of the area.

(c) MONITORING.—The Secretary shall implement a monitoring program for Federal lands in the Cooperative Management and Protection Area so that progress towards ecological integrity objectives can be determined.

SEC. 112. ROADS AND TRAVEL ACCESS.

(a) TRANSPORTATION PLAN.—The management plan shall include, as an integral part, a comprehensive transportation plan for the Federal lands included in the Cooperative Management and Protection Area, which shall address the maintenance, improvement, and closure of roads and trails as well as travel access.

(b) PROHIBITION ON OFF-ROAD MOTORIZED TRAVEL.—

(1) PROHIBITION.—The use of motorized or mechanized vehicles on Federal lands included in the Cooperative Management and Protection Area—

(A) is prohibited off road; and

(B) is limited to such roads and trails as may be designated for their use as part of the management plan.

(2) EXCEPTIONS.—Paragraph (1) does not prohibit the use of motorized or mechanized vehicles on Federal lands included in the Cooperative Management and Protection Area if the Secretary determines that such use—

(A) is needed for administrative purposes or to respond to an emergency; or

(B) is appropriate for the construction or maintenance of agricultural facilities, fish and wildlife management, or ecological restoration projects, except in areas designated as wilderness or managed under the provisions of section 603(c) of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1782).

(c) ROAD CLOSURES.—Any determination to permanently close an existing road in the Cooperative Management and Protection Area or to restrict the access of motorized or mechanized vehicles on certain roads shall be made in consultation with the advisory council and the public.

(d) PROHIBITION ON NEW CONSTRUCTION.—

(1) PROHIBITION, EXCEPTION.—No new road or trail for motorized or mechanized vehicles may be constructed on Federal lands in the Cooperative Management and Protection Area unless the Secretary determines that the road or trail is necessary for public safety or protection of the environment. Any determination under this subsection shall be made in consultation with the advisory council and the public.

(2) TRAILS.—Nothing in this subsection is intended to limit the authority of the Secretary to construct or maintain trails for nonmotorized or nonmechanized use.

(e) ACCESS TO NONFEDERALLY OWNED LANDS.—

(1) REASONABLE ACCESS.—The Secretary shall provide reasonable access to nonfederally owned lands or interests in land within the boundaries of the Cooperative Management and Protection Area and the Wilderness Area to provide the owner of the land or interest the reasonable use thereof.

(2) EFFECT ON EXISTING RIGHTS-OF-WAY.—Nothing in this Act shall have the effect of terminating any valid existing

H. R. 4828—7

right-of-way on Federal lands included in the Cooperative Management and Protection Area.

SEC. 113. LAND USE AUTHORITIES.

(a) IN GENERAL.—The Secretary shall allow only such uses of the Federal lands included in the Cooperative Management and Protection Area as the Secretary finds will further the purposes for which the Cooperative Management and Protection Area is established.

(b) COMMERCIAL TIMBER.—

(1) PROHIBITION.—The Federal lands included in the Cooperative Management and Protection Area shall not be made available for commercial timber harvest.

(2) LIMITED EXCEPTION.—The Secretary may authorize the removal of trees from Federal lands in the Cooperative Management and Protection Area only if the Secretary determines that the removal is clearly needed for purposes of ecological restoration and maintenance or for public safety. Except in the Wilderness Area and the wilderness study areas referred to in section 204(a), the Secretary may authorize the sale of products resulting from the authorized removal of trees under this paragraph.

(c) JUNIPER MANAGEMENT.—The Secretary shall emphasize the restoration of the historic fire regime in the Cooperative Management and Protection Area and the resulting native vegetation communities through active management of Western Juniper on a landscape level. Management measures shall include the use of natural and prescribed burning.

(d) HUNTING, FISHING, AND TRAPPING.—

(1) AUTHORIZATION.—The Secretary shall permit hunting, fishing, and trapping on Federal lands included in the Cooperative Management and Protection Area in accordance with applicable laws and regulations of the United States and the State of Oregon.

(2) AREA AND TIME LIMITATIONS.—After consultation with the Oregon Department of Fish and Wildlife, the Secretary may designate zones where, and establish periods when, hunting, trapping or fishing is prohibited on Federal lands included in the Cooperative Management and Protection Area for reasons of public safety, administration, or public use and enjoyment.

(e) GRAZING.—

(1) CONTINUATION OF EXISTING LAW.—Except as otherwise provided in this section and title VI, the laws, regulations, and executive orders otherwise applicable to the Bureau of Land Management in issuing and administering grazing leases and permits on lands under its jurisdiction shall apply in regard to the Federal lands included in the Cooperative Management and Protection Area.

(2) CANCELLATION OF CERTAIN PERMITS.—The Secretary shall cancel that portion of the permitted grazing on Federal lands in the Fish Creek/Big Indian, East Ridge, and South Steens allotments located within the area designated as the “no livestock grazing area” on the map referred to in section 101(a). Upon cancellation, future grazing use in that designated area is prohibited. The Secretary shall be responsible for

H. R. 4828—8

installing and maintaining any fencing required for resource protection within the designated no livestock grazing area.

(3) FORAGE REPLACEMENT.—Reallocation of available forage shall be made as follows:

(A) O'Keefe pasture within the Miners Field allotment to Stafford Ranches.

(B) Fields Seeding and Bone Creek Pasture east of the county road within the Miners Field allotment to Amy Ready.

(C) Miners Field Pasture, Schouver Seeding and Bone Creek Pasture west of the county road within the Miners Field allotment to Roaring Springs Ranch.

(D) 800 animal unit months within the Crows Nest allotment to Lowther (Clemens) Ranch.

(4) FENCING AND WATER SYSTEMS.—The Secretary shall also construct fencing and develop water systems as necessary to allow reasonable and efficient livestock use of the forage resources referred to in paragraph (3).

(f) PROHIBITION ON CONSTRUCTION OF FACILITIES.—No new facilities may be constructed on Federal lands included in the Cooperative Management and Protection Area unless the Secretary determines that the structure—

(1) will be minimal in nature;

(2) is consistent with the purposes of this Act; and

(3) is necessary—

(A) for enhancing botanical, fish, wildlife, or watershed conditions;

(B) for public information, health, or safety;

(C) for the management of livestock; or

(D) for the management of recreation, but not for the promotion of recreation.

(g) WITHDRAWAL.—Subject to valid existing rights, the Federal lands and interests in lands included in the Cooperative Management and Protection Areas are hereby withdrawn from all forms of entry, appropriation, or disposal under the public land laws, except in the case of land exchanges if the Secretary determines that the exchange furthers the purpose and objectives specified in section 102 and so certifies to Congress.

SEC. 114. LAND ACQUISITION AUTHORITY.

(a) ACQUISITION.—

(1) ACQUISITION AUTHORIZED.—In addition to the land acquisitions authorized by title VI, the Secretary may acquire other non-Federal lands and interests in lands located within the boundaries of the Cooperative Management and Protection Area or the Wilderness Area.

(2) ACQUISITION METHODS.—Lands may be acquired under this subsection only by voluntary exchange, donation, or purchase from willing sellers.

(b) TREATMENT OF ACQUIRED LANDS.—

(1) IN GENERAL.—Subject to paragraphs (2) and (3), lands or interests in lands acquired under subsection (a) or title VI that are located within the boundaries of the Cooperative Management and Protection Area shall—

(A) become part of the Cooperative Management and Protection Area; and

H. R. 4828—9

(B) be managed pursuant to the laws applicable to the Cooperative Management and Protection Area.

(2) LANDS WITHIN WILDERNESS AREA.—If lands or interests in lands acquired under subsection (a) or title VI are within the boundaries of the Wilderness Area, the acquired lands or interests in lands shall—

(A) become part of the Wilderness Area; and

(B) be managed pursuant to title II and the other laws applicable to the Wilderness Area.

(3) LANDS WITHIN WILDERNESS STUDY AREA.—If the lands or interests in lands acquired under subsection (a) or title VI are within the boundaries of a wilderness study area, the acquired lands or interests in lands shall—

(A) become part of that wilderness study area; and

(B) be managed pursuant to the laws applicable to that wilderness study area.

(c) APPRAISAL.—In appraising non-Federal land, development rights, or conservation easements for possible acquisition under this section or section 122, the Secretary shall disregard any adverse impacts on values resulting from the designation of the Cooperative Management and Protection Area or the Wilderness Area.

SEC. 115. SPECIAL USE PERMITS.

The Secretary may renew a special recreational use permit applicable to lands included in the Wilderness Area to the extent that the Secretary determines that the permit is consistent with the Wilderness Act (16 U.S.C. 1131 et seq.). If renewal is not consistent with the Wilderness Act, the Secretary shall seek other opportunities for the permit holder through modification of the permit to realize historic permit use to the extent that the use is consistent with the Wilderness Act and this Act, as determined by the Secretary.

Subtitle C—Cooperative Management

SEC. 121. COOPERATIVE MANAGEMENT AGREEMENTS.

(a) COOPERATIVE EFFORTS.—To further the purposes and objectives for which the Cooperative Management and Protection Area is designated, the Secretary may work with non-Federal landowners and other parties who voluntarily agree to participate in the cooperative management of Federal and non-Federal lands in the Cooperative Management and Protection Area.

(b) AGREEMENTS AUTHORIZED.—The Secretary may enter into a cooperative management agreement with any party to provide for the cooperative conservation and management of the Federal and non-Federal lands subject to the agreement.

(c) OTHER PARTICIPANTS.—With the consent of the landowners involved, the Secretary may permit permittees, special-use permit holders, other Federal and State agencies, and interested members of the public to participate in a cooperative management agreement as appropriate to achieve the resource or land use management objectives of the agreement.

(d) TRIBAL CULTURAL SITE PROTECTION.—The Secretary may enter into agreements with the Burns Paiute Tribe to protect cultural sites in the Cooperative Management and Protection Area of importance to the tribe.

H. R. 4828—10

SEC. 122. COOPERATIVE EFFORTS TO CONTROL DEVELOPMENT AND ENCOURAGE CONSERVATION.

(a) **POLICY.**—Development on public and private lands within the boundaries of the Cooperative Management and Protection Area which is different from the current character and uses of the lands is inconsistent with the purposes of this Act.

(b) **USE OF NONDEVELOPMENT AND CONSERVATION EASEMENTS.**—The Secretary may enter into a nondevelopment easement or conservation easement with willing landowners to further the purposes of this Act.

(c) **CONSERVATION INCENTIVE PAYMENTS.**—The Secretary may provide technical assistance, cost-share payments, incentive payments, and education to a private landowner in the Cooperative Management and Protection Area who enters into a contract with the Secretary to protect or enhance ecological resources on the private land covered by the contract if those protections or enhancements benefit public lands.

(d) **RELATION TO PROPERTY RIGHTS AND STATE AND LOCAL LAW.**—Nothing in this Act is intended to affect rights or interests in real property or supersede State law.

Subtitle D—Advisory Council

SEC. 131. ESTABLISHMENT OF ADVISORY COUNCIL.

(a) **ESTABLISHMENT.**—The Secretary shall establish the Steens Mountain Advisory Council to advise the Secretary in managing the Cooperative Management and Protection Area and in promoting the cooperative management under subtitle C.

(b) **MEMBERS.**—The advisory council shall consist of 12 voting members, to be appointed by the Secretary, as follows:

(1) A private landowner in the Cooperative Management and Protection Area, appointed from nominees submitted by the county court for Harney County, Oregon.

(2) Two persons who are grazing permittees on Federal lands in the Cooperative Management and Protection Area, appointed from nominees submitted by the county court for Harney County, Oregon.

(3) A person interested in fish and recreational fishing in the Cooperative Management and Protection Area, appointed from nominees submitted by the Governor of Oregon.

(4) A member of the Burns Paiute Tribe, appointed from nominees submitted by the Burns Paiute Tribe.

(5) Two persons who are recognized environmental representatives, one of whom shall represent the State as a whole, and one of whom is from the local area, appointed from nominees submitted by the Governor of Oregon.

(6) A person who participates in what is commonly called dispersed recreation, such as hiking, camping, nature viewing, nature photography, bird watching, horse back riding, or trail walking, appointed from nominees submitted by the Oregon State Director of the Bureau of Land Management.

(7) A person who is a recreational permit holder or is a representative of a commercial recreation operation in the Cooperative Management and Protection Area, appointed from nominees submitted jointly by the Oregon State Director of

H. R. 4828—11

the Bureau of Land Management and the county court for Harney County, Oregon.

(8) A person who participates in what is commonly called mechanized or consumptive recreation, such as hunting, fishing, off-road driving, hang gliding, or parasailing, appointed from nominees submitted by the Oregon State Director of the Bureau of Land Management.

(9) A person with expertise and interest in wild horse management on Steens Mountain, appointed from nominees submitted by the Oregon State Director of the Bureau of Land Management.

(10) A person who has no financial interest in the Cooperative Management and Protection Area to represent statewide interests, appointed from nominees submitted by the Governor of Oregon.

(c) CONSULTATION.—In reviewing nominees submitted under subsection (b) for possible appointment to the advisory council, the Secretary shall consult with the respective community of interest that the nominees are to represent to ensure that the nominees have the support of their community of interest.

(d) TERMS.—

(1) STAGGERED TERMS.—Members of the advisory council shall be appointed for terms of 3 years, except that, of the members first appointed, four members shall be appointed for a term of 1 year and four members shall be appointed for a term of 2 years.

(2) REAPPOINTMENT.—A member may be reappointed to serve on the advisory council.

(3) VACANCY.—A vacancy on the advisory council shall be filled in the same manner as the original appointment.

(d) CHAIRPERSON AND PROCEDURES.—The advisory council shall elect a chairperson and establish such rules and procedures as it deems necessary or desirable.

(e) SERVICE WITHOUT COMPENSATION.—Members of the advisory council shall serve without pay, but the Secretary shall reimburse members for reasonable expenses incurred in carrying out official duties as a member of the council.

(f) ADMINISTRATIVE SUPPORT.—The Secretary shall provide the advisory council with necessary administrative support and shall designate an appropriate officer of the Bureau of Land Management to serve as the Secretary's liaison to the council.

(g) STATE LIAISON.—The Secretary shall appoint one person, nominated by the Governor of Oregon, to serve as the State government liaison to the advisory council.

(h) APPLICABLE LAW.—The advisory committee shall be subject to the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1701 et seq.) and the Federal Advisory Committee Act (5 U.S.C. App.).

SEC. 132. ADVISORY ROLE IN MANAGEMENT ACTIVITIES.

(a) MANAGEMENT RECOMMENDATIONS.—The advisory committee shall utilize sound science, existing plans for the management of Federal lands included in the Cooperative Management and Protection Area, and other tools to formulate recommendations for the Secretary regarding—

H. R. 4828—12

(1) new and unique approaches to the management of lands within the boundaries of the Cooperative Management and Protection Area; and

(2) cooperative programs and incentives for seamless landscape management that meets human needs and maintains and improves the ecological and economic integrity of the Cooperative Management and Protection Area.

(b) PREPARATION OF MANAGEMENT PLAN.—The Secretary shall consult with the advisory committee as part of the preparation and implementation of the management plan.

(c) SUBMISSION OF RECOMMENDATIONS.—No recommendations may be presented to the Secretary by the advisory council without the agreement of at least nine members of the advisory council.

SEC. 133. SCIENCE COMMITTEE.

The Secretary shall appoint, as needed or at the request of the advisory council, a team of respected, knowledgeable, and diverse scientists to provide advice on questions relating to the management of the Cooperative Management and Protection Area to the Secretary and the advisory council. The Secretary shall seek the advice of the advisory council in making these appointments.

TITLE II—STEENS MOUNTAIN WILDERNESS AREA

SEC. 201. DESIGNATION OF STEENS MOUNTAIN WILDERNESS AREA.

The Federal lands in the Cooperative Management and Protection Area depicted as wilderness on the map entitled “Steens Mountain Wilderness Area” and dated September 18, 2000, are hereby designated as wilderness and therefore as a component of the National Wilderness Preservation System. The wilderness area shall be known as the Steens Mountain Wilderness Area.

SEC. 202. ADMINISTRATION OF WILDERNESS AREA.

(a) GENERAL RULE.—The Secretary shall administer the Wilderness Area in accordance with this title and the Wilderness Act (16 U.S.C. 1131 et seq.). Any reference in the Wilderness Act to the effective date of that Act (or any similar reference) shall be deemed to be a reference to the date of the enactment of this Act.

(b) WILDERNESS BOUNDARIES ALONG ROADS.—Where a wilderness boundary exists along a road, the wilderness boundary shall be set back from the centerline of the road, consistent with the Bureau of Land Management’s guidelines as established in its Wilderness Management Policy.

(c) ACCESS TO NON-FEDERAL LANDS.—The Secretary shall provide reasonable access to private lands within the boundaries of the Wilderness Area, as provided in section 112(d).

(d) GRAZING.—

(1) ADMINISTRATION.—Except as provided in section 113(e)(2), grazing of livestock shall be administered in accordance with the provision of section 4(d)(4) of the Wilderness Act (16 U.S.C. 1133(d)(4)), in accordance with the provisions of this Act, and in accordance with the guidelines set forth

H. R. 4828—13

in Appendices A and B of House Report 101-405 of the 101st Congress.

(2) RETIREMENT OF CERTAIN PERMITS.—The Secretary shall permanently retire all grazing permits applicable to certain lands in the Wilderness Area, as depicted on the map referred to in section 101(a), and livestock shall be excluded from these lands.

SEC. 203. WATER RIGHTS.

Nothing in this Act shall constitute an express or implied claim or denial on the part of the Federal Government as to exemption from State water laws.

SEC. 204. TREATMENT OF WILDERNESS STUDY AREAS.

(a) STATUS UNAFFECTED.—Except as provided in section 502, any wilderness study area, or portion of a wilderness study area, within the boundaries of the Cooperative Management and Protection Area, but not included in the Wilderness Area, shall remain a wilderness study area notwithstanding the enactment of this Act.

(b) MANAGEMENT.—The wilderness study areas referred to in subsection (a) shall continue to be managed under section 603(c) of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1782(c)) in a manner so as not to impair the suitability of the areas for preservation as wilderness.

(c) EXPANSION OF BASQUE HILLS WILDERNESS STUDY AREA.—The boundaries of the Basque Hills Wilderness Study Area are hereby expanded to include the Federal lands within sections 8, 16, 17, 21, 22, and 27 of township 36 south, range 31 east, Willamette Meridian. These lands shall be managed under section 603(c) of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1782(c)) to protect and enhance the wilderness values of these lands.

TITLE III—WILD AND SCENIC RIVERS AND TROUT RESERVE

SEC. 301. DESIGNATION OF STREAMS FOR WILD AND SCENIC RIVER STATUS IN STEENS MOUNTAIN AREA.

(a) EXPANSION OF DONNER UND BLITZEN WILD RIVER.—Section 3(a)(74) of the Wild and Scenic Rivers Act (16 U.S.C. 1274(a)(74)) is amended—

(1) by striking “the” at the beginning of each subparagraph and inserting “The”;

(2) by striking the semicolon at the end of subparagraphs (A), (B), (C), and (D) and inserting a period;

(3) by striking “; and” at the end of subparagraph (E) and inserting a period; and

(4) by adding at the end the following new subparagraphs:
“(G) The 5.1 mile segment of Mud Creek from its confluence with an unnamed spring in the SW $\frac{1}{4}$ SE $\frac{1}{4}$ of section 32, township 33 south, range 33 east, to its confluence with the Donner und Blitzen River.

“(H) The 8.1 mile segment of Ankle Creek from its headwaters to its confluence with the Donner und Blitzen River.

H. R. 4828—14

“(I) The 1.6 mile segment of the South Fork of Ankle Creek from its confluence with an unnamed tributary in the SE $\frac{1}{4}$ SE $\frac{1}{4}$ of section 17, township 34 south, range 33 east, to its confluence with Ankle Creek.”.

(b) DESIGNATION OF WILDHORSE AND KIGER CREEKS, OREGON.—Section 3(a) of the Wild and Scenic Rivers Act (16 U.S.C. 1274(a)) is amended by adding at the end the following new paragraph:

“() WILDHORSE AND KIGER CREEKS, OREGON.—The following segments in the Steens Mountain Cooperative Management and Protection Area in the State of Oregon, to be administered by the Secretary of the Interior as wild rivers:

“(A) The 2.6-mile segment of Little Wildhorse Creek from its headwaters to its confluence with Wildhorse Creek.

“(B) The 7.0-mile segment of Wildhorse Creek from its headwaters, and including .36 stream miles into section 34, township 34 south, range 33 east.

“(C) The approximately 4.25-mile segment of Kiger Creek from its headwaters to the point at which it leaves the Steens Mountain Wilderness Area within the Steens Mountain Cooperative Management and Protection Area.”.

(c) MANAGEMENT.—Where management requirements for a stream segment described in the amendments made by this section differ between the Wild and Scenic Rivers Act (16 U.S.C. 1271 et seq.) and the Wilderness Area, the more restrictive requirements shall apply.

SEC. 302. DONNER UND BLITZEN RIVER REDBAND TROUT RESERVE.

(a) FINDINGS.—The Congress finds the following:

(1) Those portions of the Donner und Blitzen River in the Wilderness Area are an exceptional environmental resource that provides habitat for unique populations of native fish, migratory waterfowl, and other wildlife resources, including a unique population of redband trout.

(2) Redband trout represent a unique natural history reflecting the Pleistocene connection between the lake basins of eastern Oregon and the Snake and Columbia Rivers.

(b) DESIGNATION OF RESERVE.—The Secretary shall designate the Donner und Blitzen Redband Trout Reserve consisting of the Donner und Blitzen River in the Wilderness Area above its confluence with Fish Creek and the Federal riparian lands immediately adjacent to the river.

(c) RESERVE PURPOSES.—The purposes of the Redband Trout Reserve are—

(1) to conserve, protect, and enhance the Donner und Blitzen River population of redband trout and the unique ecosystem of plants, fish, and wildlife of a river system; and

(2) to provide opportunities for scientific research, environmental education, and fish and wildlife oriented recreation and access to the extent compatible with paragraph (1).

(d) EXCLUSION OF PRIVATE LANDS.—The Redband Trout Reserve does not include any private lands adjacent to the Donner und Blitzen River or its tributaries.

(e) ADMINISTRATION.—

(1) IN GENERAL.—The Secretary shall administer all lands, waters, and interests therein in the Redband Trout Reserve consistent with the Wilderness Act (16 U.S.C. 1131 et seq.) and the Wild and Scenic Rivers Act (16 U.S.C. 1271 et seq.).

H. R. 4828—15

(2) CONSULTATION.—In administering the Redband Trout Reserve, the Secretary shall consult with the advisory council and cooperate with the Oregon Department of Fish and Wildlife.

(3) RELATION TO RECREATION.—To the extent consistent with applicable law, the Secretary shall manage recreational activities in the Redband Trout Reserve in a manner that conserves the unique population of redband trout native to the Donner und Blitzen River.

(4) REMOVAL OF DAM.—The Secretary shall remove the dam located below the mouth of Fish Creek and above Page Springs if removal of the dam is scientifically justified and funds are available for such purpose.

(f) OUTREACH AND EDUCATION.—The Secretary may work with, provide technical assistance to, provide community outreach and education programs for or with, or enter into cooperative agreements with private landowners, State and local governments or agencies, and conservation organizations to further the purposes of the Redband Trout Reserve.

TITLE IV—MINERAL WITHDRAWAL AREA

SEC. 401. DESIGNATION OF MINERAL WITHDRAWAL AREA.

(a) DESIGNATION.—Subject to valid existing rights, the Federal lands and interests in lands included within the withdrawal boundary as depicted on the map referred to in section 101(a) are hereby withdrawn from—

(1) location, entry and patent under the mining laws; and

(2) operation of the mineral leasing and geothermal leasing laws and from the minerals materials laws and all amendments thereto except as specified in subsection (b).

(b) ROAD MAINTENANCE.—If consistent with the purposes of this Act and the management plan for the Cooperative Management and Protection Area, the Secretary may permit the development of saleable mineral resources, for road maintenance use only, in those locations identified on the map referred to in section 101(a) as an existing "gravel pit" within the mineral withdrawal boundaries (excluding the Wilderness Area, wilderness study areas, and designated segments of the National Wild and Scenic Rivers System) where such development was authorized before the date of the enactment of this Act.

SEC. 402. TREATMENT OF STATE LANDS AND MINERAL INTERESTS.

(a) ACQUISITION REQUIRED.—The Secretary shall acquire, for approximately equal value and as agreed to by the Secretary and the State of Oregon, lands and interests in lands owned by the State within the boundaries of the mineral withdrawal area designated pursuant to section 401.

(b) ACQUISITION METHODS.—The Secretary shall acquire such State lands and interests in lands in exchange for—

(1) Federal lands or Federal mineral interests that are outside the boundaries of the mineral withdrawal area;

(2) a monetary payment to the State; or

(3) a combination of a conveyance under paragraph (1) and a monetary payment under paragraph (2).

H. R. 4828—16

TITLE V—ESTABLISHMENT OF WILDLANDS JUNIPER MANAGEMENT AREA

SEC. 501. WILDLANDS JUNIPER MANAGEMENT AREA.

(a) **ESTABLISHMENT.**—To further the purposes of section 113(c), the Secretary shall establish a special management area consisting of certain Federal lands in the Cooperative Management and Protection Area, as depicted on the map referred to in section 101(a), which shall be known as the Wildlands Juniper Management Area.

(b) **MANAGEMENT.**—Special management practices shall be adopted for the Wildlands Juniper Management Area for the purposes of experimentation, education, interpretation, and demonstration of active and passive management intended to restore the historic fire regime and native vegetation communities on Steens Mountain.

(c) **AUTHORIZATION OF APPROPRIATIONS.**—In addition to the authorization of appropriations in section 701, there is authorized to be appropriated \$5,000,000 to carry out this title and section 113(c) regarding juniper management in the Cooperative Management and Protection Area.

SEC. 502. RELEASE FROM WILDERNESS STUDY AREA STATUS.

The Federal lands included in the Wildlands Juniper Management Area established under section 501 are no longer subject to the requirement of section 603(c) of the Federal Land Policy and Management Act of 1976 (43 U.S.C. 1782(c)) pertaining to managing the lands so as not to impair the suitability of the lands for preservation as wilderness.

TITLE VI—LAND EXCHANGES

SEC. 601. LAND EXCHANGE, ROARING SPRINGS RANCH.

(a) **EXCHANGE AUTHORIZED.**—For the purpose of protecting and consolidating Federal lands within the Cooperative Management and Protection Area, the Secretary may carry out a land exchange with Roaring Springs Ranch, Incorporated, to convey all right, title, and interest of the United States in and to certain parcels of land under the jurisdiction of the Bureau of Land Management in the vicinity of Steens Mountain, Oregon, as depicted on the map referred to in section 605(a), consisting of a total of approximately 76,374 acres in exchange for the private lands described in subsection (b).

(b) **RECEIPT OF NON-FEDERAL LANDS.**—As consideration for the conveyance of the Federal lands referred to in subsection (a) and the disbursement referred to in subsection (d), Roaring Springs Ranch, Incorporated, shall convey to the Secretary parcels of land consisting of approximately 10,909 acres, as depicted on the map referred to in section 605(a), for inclusion in the Wilderness Area, a wilderness study area, and the no livestock grazing area as appropriate.

(c) **TREATMENT OF GRAZING.**—Paragraphs (2) and (3) of section 113(e), relating to the effect of the cancellation in part of grazing permits for the South Steens allotment in the Wilderness Area

H. R. 4828—17

and reassignment of use areas as described in paragraph (3)(C) of such section, shall apply to the land exchange authorized by this section.

(d) DISBURSEMENT.—Upon completion of the land exchange authorized by this section, the Secretary is authorized to make a disbursement to Roaring Springs Ranch, Incorporated, in the amount of \$2,889,000.

(e) COMPLETION OF CONVEYANCE.—The Secretary shall complete the conveyance of the Federal lands under subsection (a) within 70 days after the Secretary accepts the lands described in subsection (b).

SEC. 602. LAND EXCHANGES, C.M. OTLEY AND OTLEY BROTHERS.

(a) C. M. OTLEY EXCHANGE.—

(1) EXCHANGE AUTHORIZED.—For the purpose of protecting and consolidating Federal lands within the Cooperative Management and Protection Area, the Secretary may carry out a land exchange with C. M. Otley to convey all right, title, and interest of the United States in and to certain parcels of land under the jurisdiction of the Bureau of Land Management in the vicinity of Steens Mountain, Oregon, as depicted on the map referred to in section 605(a), consisting of a total of approximately 3,845 acres in exchange for the private lands described in paragraph (2).

(2) RECEIPT OF NON-FEDERAL LANDS.—As consideration for the conveyance of the Federal lands referred to in paragraph (1) and the disbursement referred to in paragraph (3), C. M. Otley shall convey to the Secretary a parcel of land in the headwaters of Kiger gorge consisting of approximately 851 acres, as depicted on the map referred to in section 605(a), for inclusion in the Wilderness Area and the no livestock grazing area as appropriate.

(3) DISBURSEMENT.—Upon completion of the land exchange authorized by this subsection, the Secretary is authorized to make a disbursement to C.M. Otley, in the amount of \$920,000.

(b) OTLEY BROTHERS EXCHANGE.—

(1) EXCHANGE AUTHORIZED.—For the purpose of protecting and consolidating Federal lands within the Cooperative Management and Protection Area, the Secretary may carry out a land exchange with the Otley Brother's, Inc., to convey all right, title, and interest of the United States in and to certain parcels of land under the jurisdiction of the Bureau of Land Management in the vicinity of Steens Mountain, Oregon, as depicted on the map referred to in section 605(a), consisting of a total of approximately 6,881 acres in exchange for the private lands described in paragraph (2).

(2) RECEIPT OF NON-FEDERAL LANDS.—As consideration for the conveyance of the Federal lands referred to in paragraph (1) and the disbursement referred to in subsection (3), the Otley Brother's, Inc., shall convey to the Secretary a parcel of land in the headwaters of Kiger gorge consisting of approximately 505 acres, as depicted on the map referred to in section 605(a), for inclusion in the Wilderness Area and the no livestock grazing area as appropriate.

(3) DISBURSEMENT.—Upon completion of the land exchange authorized by this subsection, the Secretary is authorized to

H. R. 4828—18

make a disbursement to Otley Brother's, Inc., in the amount of \$400,000.

(c) COMPLETION OF CONVEYANCE.—The Secretary shall complete the conveyances of the Federal lands under subsections (a) and (b) within 70 days after the Secretary accepts the lands described in such subsections.

SEC. 603. LAND EXCHANGE, TOM J. DAVIS LIVESTOCK, INCORPORATED.

(a) EXCHANGE AUTHORIZED.—For the purpose of protecting and consolidating Federal lands within the Wilderness Area, the Secretary may carry out a land exchange with Tom J. Davis Livestock, Incorporated, to convey all right, title, and interest of the United States in and to certain parcels of land under the jurisdiction of the Bureau of Land Management in the vicinity of Steens Mountain, Oregon, as depicted on the map referred to in section 605(a), consisting of a total of approximately 5,340 acres in exchange for the private lands described in subsection (b).

(b) RECEIPT OF NON-FEDERAL LANDS.—As consideration for the conveyance of the Federal lands referred to in subsection (a) and the disbursement referred to in subsection (c), Tom J. Davis Livestock, Incorporated, shall convey to the Secretary a parcel of land consisting of approximately 5,103 acres, as depicted on the map referred to in section 605(a), for inclusion in the Wilderness Area.

(c) DISBURSEMENT.—Upon completion of the land exchange authorized by this section, the Secretary is authorized to make a disbursement to Tom J. Davis Livestock, Incorporated, in the amount of \$800,000.

(d) COMPLETION OF CONVEYANCE.—The Secretary shall complete the conveyance of the Federal lands under subsection (a) within 70 days after the Secretary accepts the lands described in subsection (b).

SEC. 604. LAND EXCHANGE, LOWTHER (CLEMENS) RANCH.

(a) EXCHANGE AUTHORIZED.—For the purpose of protecting and consolidating Federal lands within the Cooperative Management and Protection Area, the Secretary may carry out a land exchange with the Lowther (Clemens) Ranch to convey all right, title, and interest of the United States in and to certain parcels of land under the jurisdiction of the Bureau of Land Management in the vicinity of Steens Mountain, Oregon, as depicted on the map referred to in section 605(a), consisting of a total of approximately 11,796 acres in exchange for the private lands described in subsection (b).

(b) RECEIPT OF NON-FEDERAL LANDS.—As consideration for the conveyance of the Federal lands referred to in subsection (a) and the disbursement referred to in subsection (d), the Lowther (Clemens) Ranch shall convey to the Secretary a parcel of land consisting of approximately 1,078 acres, as depicted on the map referred to in section 605(a), for inclusion in the Cooperative Management and Protection Area.

(c) TREATMENT OF GRAZING.—Paragraphs (2) and (3) of section 113(e), relating to the effect of the cancellation in whole of the grazing permit for the Fish Creek/Big Indian allotment in the Wilderness Area and reassignment of use areas as described in paragraph (3)(D) of such section, shall apply to the land exchange authorized by this section.

(d) DISBURSEMENT.—Upon completion of the land exchange authorized by this section, the Secretary is authorized to make

H. R. 4828—19

a disbursement to Lowther (Clemens) Ranch, in the amount of \$148,000.

(e) COMPLETION OF CONVEYANCE.—The Secretary shall complete the conveyance of the Federal lands under subsection (a) within 70 days after the Secretary accepts the lands described in subsection (b).

SEC. 605. GENERAL PROVISIONS APPLICABLE TO LAND EXCHANGES.

(a) MAP.—The land conveyances described in this title are generally depicted on the map entitled “Steens Mountain Land Exchanges” and dated September 18, 2000.

(b) APPLICABLE LAW.—Except as otherwise provided in this section, the exchange of Federal land under this title is subject to the existing laws and regulations applicable to the conveyance and acquisition of land under the jurisdiction of the Bureau of Land Management. It is anticipated that the Secretary will be able to carry out such land exchanges without the promulgation of additional regulations and without regard to the notice and comment provisions of section 553 of title 5, United States Code.

(c) CONDITIONS ON ACCEPTANCE.—Title to the non-Federal lands to be conveyed under this title must be acceptable to the Secretary, and the conveyances shall be subject to valid existing rights of record. The non-Federal lands shall conform with the title approval standards applicable to Federal land acquisitions.

(d) LEGAL DESCRIPTIONS.—The exact acreage and legal description of all lands to be exchanged under this title shall be determined by surveys satisfactory to the Secretary. The costs of any such survey, as well as other administrative costs incurred to execute a land exchange under this title, shall be borne by the Secretary.

TITLE VII—FUNDING AUTHORITIES

SEC. 701. AUTHORIZATION OF APPROPRIATIONS.

Except as provided in sections 501(c) and 702, there is hereby authorized to be appropriated such sums as may be necessary to carry out this Act.

SEC. 702. USE OF LAND AND WATER CONSERVATION FUND.

(a) AVAILABILITY OF FUND.—There are authorized to be appropriated \$25,000,000 from the land and water conservation fund established under section 2 of the Land and Water Conservation Fund Act of 1965 (16 U.S.C. 4601–5) to provide funds for the acquisition of land and interests in land under section 114 and to enter into nondevelopment easements and conservation easements under subsections (b) and (c) of section 122.

H. R. 4828—20

(b) TERM OF USE.—Amounts appropriated pursuant to the authorization of appropriations in subsection (a) shall remain available until expended.

Speaker of the House of Representatives.

*Vice President of the United States and
President of the Senate.*

Appendix B - Subbasin Review Report - Andrews Management Unit/Steens Mountain Cooperative Management and Protection

Introduction

“The Interior Columbia Basin Ecosystem Management Project (ICBEMP) was established in 1994...to develop and then adopt a scientifically sound ecosystem based strategy for managing all USFS or BLM administered lands within the (Interior Columbia) Basin.” (Status of the Interior Columbia Basin, Summary of Scientific Findings [USFS 1996]). The ICBEMP covered an area of 145 million acres, 53 percent of which is public land managed by the BLM or the USFS. The size of this area requires some means to bring findings and information down to a level where they can be applied in a USFS or BLM management unit such as a ranger district or resource area. A process was developed with which the pertinent information could be “stepped down” to the local management level. This is called the subbasin review process.

The ICBEMP area was divided for analysis and review purposes into four geographic scales: broad-scale (Interior Columbia Basin), mid-scale (subbasins or groups of subbasins), fine-scale (watershed), and site scale (project). The mid-scale or subbasin level is the level at which field offices would undertake long range planning for all resources within their respective administrative boundaries. The subbasins are based on the US Geological Survey 4th field hydrologic unit codes (HUCs). On average these 4th field HUCs comprise an area of 500,000 to 1,000,000 acres. The Planning Area subbasin review area included six subbasins identified in the ICBEMP scientific assessment: Guano, Harney/Malheur Lakes, Alvord Lake, Donner und Blitzen, Thousand-Virgin, and Crooked-Rattlesnake comprising an area of approximately 6,200,110 million acres. Land ownership and administrative responsibilities included private, county, State of Oregon, BLM, and USFWS. The majority of the land in the Planning Area portion of the subbasin review area is administered by the BLM, Burns DO (Figure 2.9). Only those portions of the subbasins in the Planning Area are described.

In anticipation of preparing a comprehensive RMP/EIS, the Burns DO collected a considerable amount of data and information about the resources on BLM administered lands. Much of this information was in GIS format. Data and information needed for the resources in the subbasin review area and from other agencies were identified prior to preparation of the AMS/subbasin review.

A BLM team was assembled to be the core group responsible for gathering data and putting it into a written or GIS format. This team was comprised of a planning/NEPA specialist, a wildlife biologist, a fisheries biologist, a botanist, a recreation specialist, a wilderness specialist, a GIS specialist and a management support specialist. This core group is also part of a larger Inter Disciplinary (ID) team comprised of many other resource specialists and representatives for cooperating agencies. The subbasin review team would deal primarily with health-of-the-land issues.

Issues and Findings

Broad-scale information from the ICBEMP provides a general characterization of the Planning Area subbasin review area relative to the rest of the Interior Columbia Basin. The broad-scale information indicates that essentially 100 percent of this subbasin review area is rangeland. Rangeland in the subbasin review area is classified as low integrity. The rangeland is described as being dominated by dry shrubland vegetation that is highly sensitive to overgrazing and susceptible to invasion by noxious weeds. Hydrologic integrity is low to moderate and the integrity of riparian environments is commonly low. Some native fish species occur in highly fragmented habitat.

The conditions described above significantly increase the subbasins' susceptibility to wildland fire, insects and disease, soil erosion, loss of native species, and other problems that threaten ecological integrity, water quality, species recovery, timber and forage production, and other uses of public lands (Integrated Scientific Assessment for Ecosystem Management in the Interior Columbia Basin, USFS, BLM 1996).

Potential issues were identified by the Burns DO prior to the beginning of the subbasin review process and are included in Section 1.4.2 (Planning Criteria) of the RMP/EIS. These mid-scale issues generally reflect many of the broad-scale findings in the ICBEMP scientific assessment.

The group then examined the list of findings in “Using Key Broad-scale Findings in Mid-scale Issue Identification” documented in the ICBEMP Scientific Assessment (Quigley and Arbelbide 1997) and EIS. The participants determined that many of the findings applied to the Planning Area subbasin review area. Some of the findings were modified to more accurately reflect conditions within the Planning Area subbasin review. Of the approximately 60 findings or conditions listed, only 18 were considered not applicable to the Planning Area subbasin review. Either the resources did not occur in the area or conditions were known to be better than indicated in the ICBEMP findings.

The findings dealt primarily with terrestrial and aquatic habitat, water quality, riparian health, landscape health, and social and economic concerns including tribal rights. The group then developed the refined list of broad scale findings. These were discussed and small changes were made. Several findings dealt with designated priority issues including noxious weed and juniper expansion, water quality, special status species management, aquatic habitat, and riparian and wetland vegetation. Listed at the end of this chapter are those findings the group felt were not applicable to the Planning Area subbasin review. A complete description of the individual findings follows.

Revised List of Key Broad-Scale Findings Used in Issue Identification for the Andrews MU/Steens Mountain CMPA Subbasin Review Area

These findings are from *Ecosystem Review at the Subbasin Scale (Subbasin Review), Volume 1 - The Process*, August 1999, Appendix A. As stated above, some findings have been modified to more accurately reflect conditions within the Planning Area subbasin review. The ICBEMP did not address issues related to current management practices on cultural resources, including archaeological and Native American traditional values, and are therefore not addressed in this section.

Terrestrial Habitat/Landscape Health

(1) Rangelands

- Noxious weeds are spreading on roadway disturbance.
- Woody species encroachment by and/or increasing density of woody species (sagebrush and juniper), especially on dry grasslands and cool shrublands, has reduced herbaceous understory and biodiversity.
- Cheatgrass has taken over many dry shrublands, increasing soil erosion and fire frequency and reducing biodiversity and wildlife habitat. Cheatgrass and other exotic plant infestations have simplified species composition, reduced biodiversity, changed species interactions and forage availability, and reduced the systems' ability to buffer against changes.
- Expansion of agricultural and urban areas on non-federal lands has reduced the extent of some rangeland potential vegetation groups, most notably dry grasslands, dry shrublands, and riparian areas. Changes in some of the remaining habitat patches and loss of native species diversity have contributed to a number of wildlife species declines, some to the point of special concern (such as sage-grouse, Columbian sharptailed grouse, California bighorn sheep, pygmy rabbit, kit fox, and Washington ground squirrel).
- Increased fragmentation and loss of connectivity within and between blocks of habitat, especially in shrub steppe and riparian areas, have isolated some habitats and populations and reduced the ability of populations to move across the landscape, resulting in long-term loss of genetic interchange.
- Slow-to-recover rangelands (in general, rangelands that receive less than 12 inches of precipitation per year) are not recovering naturally at a pace that is acceptable to the general public, and are either highly susceptible to degradation or already dominated by cheatgrass and noxious weeds.
- Fire frequency has decreased in many locations resulting in an increase in conifer encroachment; an increase in tree density in formerly savanna-like stands of juniper and ponderosa pine; and increased density and/or coverage of big sagebrush and other shrubs, with an accompanying loss of herbaceous vegetation.
- Fire frequency has increased in some areas, particularly in drier locations where exotic annual grasses have become established. Increased fire frequency has caused a loss of shrub cover and reduction in bunchgrasses.

(2) Forests

- Interior ponderosa pine has decreased across its range with a significant decrease in old single story structure. The primary transitions were to interior Douglas fir and grand fir/white fir.
- There has been a loss of the large tree component (live and dead) within roaded and harvested areas. This decrease affects terrestrial wildlife species that are closely associated with these old forest structures.

- Western larch has decreased across its range. The primary transitions were to interior Douglas fir, lodgepole pine, or grand fir/white fir.
- Western white pine has decreased by 95 percent across its range. The primary transitions were to grand fir/white fir, western larch, and shrub/herb/tree regeneration.
- The whitebark pine/alpine larch potential vegetation type has decreased by 95 percent across its range, primarily through a transition into the whitebark pine cover type. Overall, however, the whitebark pine cover stand has also decreased, with compensating increases in Engelmann spruce/subalpine fir.
- Generally, mid-seral forest structures have increased in dry and moist forest potential vegetation groups (PVG), with a loss of large, scattered, and residual shade-intolerant tree components, and an increase in the density of smaller shade-tolerant diameter trees.
- There has been an increase in fragmentation and a loss of connectivity within and between blocks of late-seral, old forests, especially in lower elevation forests and riparian areas. This has isolated some animal habitats and populations and reduced the ability of populations to move across the landscape, resulting in a long-term loss of genetic interchange.
- Habitat for several forest carnivores and omnivores is in decline.
- Insects and diseases always existed in forests, but the size and intensity of their attacks has increased in recent years due to increased stand density.
- Dry forests have had an increase in fuel loading, duff depth, stand density, and a fuel ladder that can carry fire from the surface into the tree crowns. As a result, wildfire intensity has increased.
- Noxious weeds are spreading rapidly, and in some cases exponentially, in most dry forest types.

Aquatic Habitat/Landscape Health

(3) Hydrology and Watershed Processes

- Management activities throughout watersheds in the Planning Area have affected the quantity and quality of water, processes of sedimentation and erosion, and the production and distribution of organic material, thus affecting hydrologic conditions.

(4) Source Habitat

- Source habitats for the majority of species in the basin declined strongly (>20 percent decline) from historical to current.
- The strongest declines were for species dependent on low-elevation, old-forest habitats, species dependent on combinations of rangeland or early-seral forests with late-seral forests, and species dependent on native grassland and open canopy sagebrush habitats (Wisdom et al., in press).
- Primary causes of decline in old-forest habitats and early-seral habitats are intensive timber harvest and large-scale fir exclusion.
- Primary causes for decline in native herbland, woodland, grassland, and sagebrush habitats are excessive livestock grazing, invasion of exotic plants, and conversion of land to agriculture, residential, and urban development. Altered fire regimes have also contributed to a decline in grassland and shrubland habitats.
- A variety of road-associated factors negatively affect habitats or populations of many species.
- Human interactions with wide-ranging carnivores are generally negative and large areas of the basin may not be used by wide-ranging carnivores; because of this, habitats for many riparian dependent terrestrial species, especially shrubland habitats, have declined.
- Snag and down wood habitats in managed woodland and riparian areas have declined.

(5) Streams, Rivers and Lakes

- Banks and beds of streams, rivers, and lakes have been altered. In general, the changes have been greatest for the larger streams, rivers, and lakes.
- Water quantity and flow rates have been locally affected.
- Many BLM administered streams are “water quality limited” as defined by the Clean Water Act. On Forest Service-administered lands, the primary water quality problems are sedimentation, turbidity, flow alteration, and elevated temperatures. On BLM administered lands, sedimentation, turbidity, and elevated temperatures are the primary reasons for listing as water quality limited.
- Streams and rivers are highly variable across the project area, reflecting diverse physical settings and disturbance histories. Nevertheless, important aspects of fish habitat, such as pool frequency and large woody debris abundance, have decreased throughout much of the project area.

(6) Riparian Areas and Wetlands

- The overall extent and continuity of riparian areas and wetlands has decreased.
- Riparian ecosystem function, has decreased in most subbasins within the project area.
- A majority of riparian areas on BLM administered lands are either “not meeting objectives,” “non-functioning,” or “functioning at risk.” However, the rate has slowed and a few areas show increases in riparian cover and large trees.
- Within riparian woodlands, the abundance of mid-seral vegetation has increased, whereas the abundance of late and early seral structural stages has decreased.
- Within riparian shrublands, there has been extensive spread of western juniper and introduction of exotic grasses and forbs.
- The frequency and extent of seasonal floodplain and wetland inundation has been altered by changes in flow regime, and by changes in channel morphology.
- There is an overall decrease in large trees and late seral vegetation in riparian areas.
- Riparian areas are important for about three quarters of the terrestrial wildlife species. Wildlife numbers have declined in proportion to the decline in riparian habitat conditions.

(7) Fish

- The composition, distribution, and status of fishes within the Planning Area are substantially different than they were historically. Some native fishes have been eliminated from large portions of their historical ranges.
- Many native nongame fish are vulnerable because of their restricted distribution or fragile or unique habitats.
- Although several of the key salmonids are still broadly distributed (notably the cutthroat trouts and redband trout), declines in abundance, loss of life history patterns, local extinctions, and fragmentation and isolation in smaller blocks of high quality habitat are apparent.
- Wild chinook salmon and steelhead are near extinction in a major part of their remaining distribution.
- Core areas for rebuilding and maintaining biological diversity associated with native fishes still exist within the basin.

Landscape Health

(8) Air Quality

- The current condition of air quality in the project area is considered good, relative to other areas of the country.
- Wildland fires significantly affect the air resources. Current wildland fires produce higher levels of smoke emissions than historically. Within the project area, the current trend in prescribed fire use is expected to result in an increase of smoke emissions.

Social/Economic

(9) Human Uses and Values

- The Planning Area is sparsely populated and rural, especially in areas with a large amount of agency lands.
- Development for a growing human population is encroaching on previously undeveloped areas adjacent to lands administered by the BLM. New development can put stress on the political and physical infrastructure of rural communities, diminish habitat for some wildlife, and increase agency costs to manage fire to protect people and structures.
- Recreation is an important use of agency lands in the Planning Area in terms of economic value and amount of use. Most recreation use is tied to roads and accessible water bodies, though primitive and semi-primitive recreation is also important.
- Industries customarily served by agency land uses, such as logging, wood products manufacturing and livestock grazing, no longer dictate the economic prosperity of the region, but remain economically and culturally important in rural areas. The economic dependence of communities on these industries is highest in areas that are geographically isolated and offer few alternative employment opportunities.
- The public, including individuals and Harney County through gross receipts sharing, has invested substantial land and capital to develop road systems on agency lands, primarily to serve commodity uses.

- For those counties that have benefitted from federal sharing of gross receipts from commodity sales on agency lands, changing levels of commodity outputs can affect county budgets.
- Agency social and economic policy has emphasized the goal of supporting rural communities, specifically promoting stability in those communities deemed dependent on agency timber harvest and processing. Even-flow of timber sales, timber sale bidding methods, timber export restrictions, and small business set asides of timber sales have been the major policy tools on Forest Service-administered commercial forestlands. Regulation of grazing practices has been important on BLM administered rangelands.
- The factors that appear to help make communities resilient to economic and social change include population size and growth rate, economic diversity, social and cultural attributes, amenity setting, and quality of life. The ability of agencies to improve community resiliency depends on the effectiveness of agency land uses and management strategies to positively influence these factors.
- Predictability in timber sale volume from agency lands has been increasingly difficult to achieve. Advancing knowledge of ecosystem processes, changing societal goals, and changing forest conditions has undermined conventional assumptions underlying the quantity and regularity of timber supply from agency lands.
- Lands now administered by the BLM make up the traditional homelands of affected American Indian Tribes. Land management actions and decisions on these lands affect the rights and/or interests of these tribes and their members.
- American Indian tribes in the Basin depend on lands and resources administered by the BLM for a myriad of needs and uses ranging from subsistence uses and economic purposes to religious and cultural purposes.
- Agency social and economic policy has emphasized the goal of supporting rural communities, including tribal communities. The ability of agencies to assist tribal members and tribal communities depends on the effectiveness of agency land uses and management strategies to positively consider and influence these factors (tribal employment, subsistence, treaty/reserved rights, spiritual, cultural/social purposes).

(10) American Indian Rights and Interests

- There is low confidence and trust that American Indian rights and interests are considered when decisions are proposed and made for actions to be taken on BLM administered lands.
- American Indian values on federal lands may be affected by proposed actions on woodlands and rangelands because of changes in vegetation structure, composition, and density; existing roads; and watershed conditions.
- Indian tribes do not feel that they are involved in the decision-making process commensurate with their legal status. They do not feel that government-to-government consultation is taking place.
- Culturally significant species such as anadromous fish and the habitat necessary to support healthy, sustainable, and harvest able populations constitute a major, but not the only, concern. American Indian people have concern for all factors that keep the ecosystem healthy.

Findings from the ICBEMP Scientific Assessment Not Applicable to the Andrew MU/Steens Mountain CMPA Subbasin Review Area

Following is a description of ICBEMP broad-scale findings determined by the BLM team to be not applicable to the subbasin review area. The reasons why the findings are not applicable are given.

Finding: Noxious weeds are spreading rapidly, and in some cases exponentially, on rangelands in every range cluster.

Response: Noxious weeds, although present on the Planning Area, are not spreading rapidly in every range cluster and the Burns BLM has implemented an integrated weed management program.

Finding: Expansion of agricultural and urban areas on non-federal lands has reduced the extent of some rangeland potential vegetation groups, most notably dry grasslands, dry shrublands, and riparian areas. Changes in some of the remaining habitat patches and loss of native species diversity have contributed to a number of wildlife species declines, some to the point of special concern (such as sage-grouse, Columbian sharptailed grouse, California bighorn sheep, pygmy rabbit, kit fox, and Washington ground squirrel).

Response: The Planning Area has not experienced expansion of agricultural and urban areas on non-federal lands.

Finding: Increased fragmentation and loss of connectivity within and between blocks of habitat, especially in shrub steppe and riparian areas, have isolated some habitats and populations and reduced the ability of populations to move across the landscape, resulting in long-term loss of genetic interchange.

Response: There has not been fragmentation and loss of habitat connectivity in the Planning Area; in fact, the BLM has acquired parcels for incorporation into contiguous lands under BLM administration, which increases habitat connectivity.

Finding: Fire frequency has decreased in many locations resulting in an increase in conifer encroachment; an increase in tree density in formerly savanna-like stands of juniper and ponderosa pine; and increased density and/or coverage of big sagebrush and other shrubs, with an accompanying loss of herbaceous vegetation.

Response: Conifers are not readily present in the Planning Area and are not encroaching.

Finding: Interior ponderosa pine has decreased across its range with a significant decrease in old single story structure. The primary transitions were to interior Douglas fir and grand fir/white fir.

Response: Ponderosa pine has not occurred historically and does not presently occur within the Planning Area.

Finding: There has been a loss of the large tree component (live and dead) within roaded and harvested areas. This decrease affects terrestrial wildlife species that are closely associated with these old forest structures.

Response: The Planning Area is not forested; therefore, a loss of large trees has not occurred.

Finding: Western larch has decreased across its range. The primary transitions were to interior Douglas fir, lodgepole pine, or grand fir/white fir.

Response: Western larch has not occurred historically and does not presently occur within the Andrews MU/Steens Mountain CMPA subbasin review area.

Finding: Western white pine has decreased by 95 percent across its range. The primary transitions were to grand fir/white fir, western larch, and shrub/herb/tree regeneration.

Response: The Planning Area contains a very small (approximately 40 acres) stand of white fir and it has not changed substantially in size

Finding: The whitebark pine/alpine larch potential vegetation type has decreased by 95 percent across its range, primarily through a transition into the whitebark pine cover type. Overall, however, the whitebark pine cover stand has also decreased, with compensating increases in Engelmann spruce/subalpine fir.

Response: Whitebark pine/alpine larch potential vegetation type has not occurred historically and does not presently occur within the Andrews MU/Steens Mountain CMPA subbasin review area.

Finding: Generally, mid-seral forest structures have increased in dry and moist forest potential vegetation groups (PVG), with a loss of large, scattered, and residual shade-intolerant tree components, and an increase in the density of smaller shade-tolerant diameter trees.

Response: The Planning Area does not have forest habitat.

Finding: There has been an increase in fragmentation and a loss of connectivity within and between blocks of late-seral, old forests, especially in lower elevation forests and riparian areas. This has isolated some animal habitats and populations and reduced the ability of populations to move across the landscape, resulting in a long-term loss of genetic interchange.

Response: The Planning Area does not contain old-growth forests.

Finding: Habitat for several forest carnivores and omnivores is in decline.

Response: The Planning Area does not have forest habitat.

Finding: Insects and diseases always existed in forests, but the size and intensity of their attacks has increased in recent years due to increased stand density.

Response: The Planning Area does not have forest habitat.

Finding: Dry forests have had an increase in fuel loading, duff depth, stand density, and a fuel ladder that can carry fire from the surface into the tree crowns. As a result, wildfire intensity has increased.

Response: The Planning Area does not have forest habitat.

Finding: Noxious weeds are spreading rapidly, and in some cases exponentially, in most dry forest types.

Response: Noxious weeds, although present on the Planning Area, are not spreading rapidly in dry forest types and the Burns BLM has implemented an integrated weed management program.

Finding: Primary causes of decline in old-forest habitats and early-seral habitats are intensive timber harvest and large-scale fire exclusion.

Response: Old-growth forest habitat has not occurred historically and does not presently occur within the Andrews MU/Steens Mountain CMPA subbasin review area.

Finding: Human interactions with wide-ranging carnivores are generally negative and large areas of the basin may not be used by wide-ranging carnivores; because of this, habitats for many riparian dependent terrestrial species, especially shrubland habitats, have declined.

Response: Wide-Ranging carnivores are not prevalent in the Planning Area; therefore, there are no commensurate elevated levels of herbivores impacting the identified habitat.

Finding: The composition, distribution, and status of fishes within the Planning Area are substantially different than they were historically. Some native fishes have been eliminated from large portions of their historical ranges.

Response: The composition, distribution, and status of fishes within the Planning Area have not substantially changed.

Finding: Wild chinook salmon and steelhead are near extinction in a major part of their remaining distribution.

Response: Chinook salmon and steelhead do not occur in the Andrews MU/Steens Mountain CMPA subbasin review area. No anadromous fish occur in the subbasin review area since only one drainage in the subbasin review area is a tributary to the Columbia River (Wild Cat Creek), and it is an ephemeral stream.

Finding: Development for a growing human population is encroaching on previously undeveloped areas adjacent to lands administered by the Forest Service and the BLM. New development can put stress on the political and physical infrastructure of rural communities, diminish habitat for some wildlife, and increase agency costs to manage fire to protect people and structures.

Response: The Planning Area is sparsely populated and rural; however, it is not experiencing any rapid population growth. The population is stable or declining.

Finding: Agency social and economic policy has emphasized the goal of supporting rural communities, specifically promoting stability in those communities deemed dependent on agency timber harvest and processing. Even-flow of timber sales, timber sale bidding methods, timber export restrictions, and small business set asides of timber sales have been the major policy tools on Forest Service-administered commercial forestlands. Regulation of grazing practices has been important on BLM administered rangelands.

Response: The BLM does not have a social and economic policy.

Finding: Agency social and economic policy has emphasized the goal of supporting rural communities, including tribal communities. The ability of agencies to assist tribal members and tribal communities depends on the effectiveness of agency land uses and management strategies to positively consider and influence these factors (tribal employment, subsistence, treaty/reserved rights, spiritual, cultural/social purposes).

Response: The BLM does not have a social and economic policy.

Finding: Predictability in timber sale volume from agency lands has been increasingly difficult to achieve. Advancing knowledge of ecosystem processes, changing societal goals, and changing forest conditions has undermined conventional assumptions underlying the quantity and regularity of timber supply from agency lands.

Response: The Planning Area does not have forest habitat and there are no timber sales.

Finding: There is low confidence and trust that American Indian rights and interests are considered when decisions are proposed and made for actions to be taken on BLM administered lands.

Response: The Burns Paiute Tribe is the primary consultation partner for the Planning Area. The BLM has an active relationship with this tribe.

Finding: Indian tribes do not feel that they are involved in the decision-making process commensurate with their legal status. They do not feel that government-to-government consultation is taking place.

Response: The BLM has semi-annual project summary meetings and consultation on all projects in the Planning Area of interest to the tribe.

Finding: Culturally significant species such as anadromous fish and the habitat necessary to support healthy, sustainable, and harvest able populations constitute a major, but not the only, concern. American Indian people have concern for all factors that keep the ecosystem healthy.

Response: The Planning Area does not have and has not historically had anadromous fish and the habitat necessary to support healthy, sustainable, and harvest able populations of anadromous fish.

Mid-scale Character Description (Resource Area Profile)

The Description of the Mid-scale Character, Step 3 of the subbasin review process, was combined with the Resource Area Profile (RAP) of the AMS. Both the RAP and the Mid-scale Character are descriptions of the existing resources in the subbasin review area as well as their condition and use. The only difference is that the RAP covers all resources in the Planning Area, whereas the Description of the Mid-scale Character is tied to the ICBEMP findings for issue identification. Resources addressed by the findings are described for the subbasin review area as a whole. These include rangelands, woodlands, vegetation, fish and wildlife habitat, water quality, riparian habitats, and human uses and values. Those resources not addressed by the findings are described for the Andrews MU and Steens Mountain CMPA only.

Prior to the meeting of the subbasin review team, the Burns DO staff had begun to prepare mid-scale characterization, by resource, as they pertained to the mid-scale findings and issues for the subbasin review area. This was the next step in the subbasin review process. At the meeting, the group went over the draft characterizations and suggested changes and additions. The current status of each resource pertaining to the findings was described. Management concerns for the resources were identified. A listing of the concerns, by resource, is presented as the issues in Section 6.1.

These management concerns will be used in developing the Management Opportunities chapter of the AMS (Chapter 4) and will also be used in setting priorities and making recommendations as the final step in the subbasin review process. Eventually, this information will feed into the development of alternatives for the RMP/EIS.

The complete descriptions of the mid-scale character are included as Chapter 2 of this AMS.

Priorities and Recommendations (Management Opportunities)

This is Step 4 of the subbasin review process. This step is analogous to the Management Opportunities step in preparing the AMS. In both cases, management opportunities or management recommendations are identified and priority setting is begun. In the subbasin review, the priorities would set the stage for fine scale, or activity level or project planning; however, in this situation where the subbasin review and AMS are combined, the priority setting is begun at this stage, but is carried forward and refined in preparing the RMP/EIS. After that would come the fine scale planning. The Management Opportunities/Priorities and Recommendations are in Chapter 4 of the AMS document.

The group then examined the mid-scale descriptions of 22 resources of concern. The team discussed the management concerns pertaining to these resources and “brainstormed” management opportunities and recommendations to address these concerns. This set the stage for the BLM staff to identify management opportunities for all resources to be addressed in the RMP/EIS. The following is a listing of the management opportunities by resource.

Air Resources

Meet or exceed the National Ambient Air Quality Standards and the Prevention of Significant Deterioration with all authorized actions.

Energy and Mineral Resources

Provide opportunities for exploration and development of leasable energy and mineral resources while protecting other sensitive resources. Provide opportunities for exploration and development of locatable mineral resources while protecting other sensitive resources. Provide for public demand for saleable minerals from public land while protecting sensitive resources.

Fire

Provide an Appropriate Management Response (AMR) on all wildland fires, with emphasis on fire fighter and public safety, minimizing suppression costs, benefits, and values to be protected, consistent with resource objectives. Recognize fire as a critical natural process and use it to protect, maintain, and enhance resources.

Vegetation

Restore, protect, and enhance the diversity and distribution of desirable vegetation communities, including perennial native and desirable introduced plant species. Provide for their continued existence and normal function in nutrient, water, and energy cycles. Manage big sagebrush cover in seedings and on native rangelands to meet the life history requirements of sagebrush dependent wildlife. Control the introduction and proliferation of noxious weed species and reduce the extent and density of established weed species to within acceptable limits.

Woodlands

Manage woodlands to maintain or restore ecosystems to a condition in which biodiversity is preserved and occurrences of fire, insects, and disease do not exceed levels normally expected in a healthy woodland. Manage woodlands for long-term healthy habitat for animal and plant species. Restore productivity and biodiversity in juniper and aspen woodland areas. Manage juniper areas where encroachment or increased density is threatening other resource values. Retain old growth characteristics in historic juniper sites not prone to frequent fire. Manage aspen to maintain diversity of age classes and to allow for species reestablishment.

Special Status Plant Species

Manage public land to maintain, restore, or enhance populations and habitats of special status plant species. Priority for the application of management actions would be: (1) federal endangered species, (2) federal threatened species, (3) federal proposed species, (4) federal candidate species, (5) state listed species, (6) BLM sensitive species, (7) BLM assessment species, and (8) BLM tracking species. Manage in order to conserve or lead to the recovery of threatened or endangered species.

Water Resources and Riparian/Wetlands

Ensure that surface water and groundwater influenced by BLM activities comply with or are making progress toward achieving State of Oregon water quality standards for beneficial uses as established per stream by the ODEQ. Restore, maintain, or improve riparian vegetation, habitat diversity, and associated watershed function to achieve healthy and productive riparian areas and wetlands. Where water rights are needed to support programs and projects within the Planning Area, they will be secured through normal channels as prescribed by state law.

Fish and Aquatic Habitat

Restore, maintain, or improve habitat to provide for diverse and self-sustaining communities of fishes and other aquatic organisms.

Wildlife and Wildlife Habitat

Maintain, restore, or enhance riparian areas and wetlands so they provide diverse and healthy habitat conditions for wildlife. Manage upland wildlife habitats to ensure that the necessary forage, water, cover, structure, and security are available on public land.

Special Status Animal Species

Manage public land to maintain, restore, or enhance populations and habitats of Special status animal species. Priority for the application of management actions would be: (1) federal endangered species, (2) federal threatened species, (3) federal proposed species, (4) federal candidate species, (5) state listed species, (6) BLM sensitive species, (7) BLM assessment species, and (8) BLM tracking species. Manage in order to conserve or lead to the recovery of threatened or endangered species. Facilitate the maintenance, restoration, and enhancement of bighorn sheep populations and habitat on public land. Pursue management in accordance with Oregon's Bighorn Sheep Management Plan in a manner consistent with the principles of multiple-use management.

Wild Horses

Maintain and manage wild horse herds in established HMAs at AMLs to ensure or enhance a thriving natural ecological balance between wild horse populations, wildlife, livestock, vegetation resources, and other resource values. Enhance and perpetuate special and unique characteristics that distinguish the respective herds.

Grazing Management

Grazing will be in compliance with current policy which includes the Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands in Oregon and Washington. Provide for a sustained level of livestock grazing consistent with other resource objectives and public land use allocations. Livestock grazing in the Andrews MU will be managed under laws provided by the Taylor Grazing Act, Public Rangelands Improvement Act, national Environmental Policy Act, Wilderness Act, the Act and BLM regulations. The RMP will include the Standards for Rangeland Health and Guidelines for grazing management which apply to all BLM lands in Oregon. The RMP will address several pasture and allotment boundary changes occurring as a result of land exchanges, forage offsets for creation of the No Livestock Grazing Area and grazing management changes.

Recreation

Provide and enhance developed and undeveloped recreation opportunities and manage the increasing demand for resource-dependent recreation activities while protecting resources.

Off-Highway Vehicles

Manage OHV use to protect resource values, promote public safety, provide OHV use opportunities where appropriate, and minimize conflicts among various users.

Visual Resources

Manage public land actions and activities in a manner consistent with VRM class objectives.

Areas of Critical Environmental Concern

Retain existing and designate new ACECs/RNAs where relevance and importance criteria are met and special management is required to protect the values identified.

Wild and Scenic Rivers

Protect and enhance ORVs of designated NWSRS and protect and enhance ORVs of rivers found suitable for WSR status until Congress acts.

Wilderness

Designated Wilderness Areas will be managed under the Wilderness Management Policy. The wilderness resources will be dominant whenever choices must be made between preservation of the wilderness character and visitor use.

Wilderness Study Areas

BLM administered land identified in the Wilderness Study Report and determined to have wilderness values could be included in adjacent WSAs and managed under the WSA IMP.

Human Uses and Values

Manage public land and pursue partnerships in order to provide social and economic benefits to local residents, businesses, visitors, and for future generations.

Cultural Resources

Protect and conserve cultural and paleontological resources. Increase the public's knowledge, appreciation, and sensitivity regarding cultural and paleontological resources. Consult and coordinate with American Indian groups to ensure that their traditional religious sites, land forms, resources, and other interests are considered.

Land and Realty

Retain public land with high public resource values. Consolidate public land holdings and acquire land or interests in land with high public resource values to ensure effective administration and improve resource management. Acquired land would be managed for its intended purpose. Make public land available for disposal within Zone 3 by state indemnity selection, private or state exchange, Recreation and Public Purpose Act lease or sale, public sale, or other authorized method. Establish utility and transportation system corridor routes to the extent possible, considering avoidance areas, and consistent with resource objectives.

BLM Resource Management Planning Process

During the resource management planning process, the BLM will set priorities for acting on these recommendations and opportunities. Emphasis will be placed on opportunities for protecting and managing special areas such as Areas of Critical Environmental Concern; opportunities for management of resources across administrative boundaries such as watersheds, aquatic species, and noxious weeds; and opportunities for control of juniper expansion.

BLM staff incorporated the descriptions of the mid-scale character and the recommendations into the RAP and management opportunities sections, respectively, of the AMS. The similarities between the subbasin review process and the AMS process are shown in the following table. The integrated priority setting described in the subbasin review for BLM actions will be conducted through the RMP.

Table 6.1: Steps in the Subbasin Review and Analysis of Management Situation

Subbasin Review		Analysis of the Management Situation	
<u>Step</u>		<u>Step</u>	
1.	Prepare for the Review	1.	Collect and Consolidate Data
2.	Identify Mid-scale Issues	2.	Conduct Internal and Public Scoping
3.	Describe Mid-scale Character (Describe character of the review area in relationship to the issues)	3.	Resource Area Profile (Describe the condition of the resource area, including its physical, biological and human environment)
	No step in subbasin review corresponds to Existing Management Situation of the AMS	4.	Existing Management Situation (Describe for each resource its current uses, production, or protection problems and the management practices and direction)
4.	Develop recommendations and integrated priority setting. (Develop recommended actions and determine urgency and timing of actions)	5.	Identify Management Opportunities (Identify and evaluate all reasonable opportunities and/or actions to address the planning issues and management concerns)
5.	Subbasin Review Report (Document the subbasin review results and the process. Provide information for further planning)	6.	Prepare the AMS (Develop a comprehensive document for use by the BLM and a summary document for public distribution. Provide information for RMP/EIS)

Appendix C - Summary of Public Scoping Comments for the Andrews Management Unit/Steens Mountain and Cooperative Management and Protection Area

Postmarked or Delivered by April 15, 2002

Introduction

469 different scoping letters were received (this includes an original version of each form letter) and 1,844 copies of various form letters. Each individual scoping letter and one of each form letter were numbered and each comment in each letter was numbered. Then each comment was summarized and included in a comment table that will be used to track how the comment will be addressed in the Resource Management Plan (RMP)/Environmental Impact Statement(EIS). A total of 3,601 comments were identified. The comments were categorized into the following 23 categories: Alternative Choices; Cultural; Development Issues; Fire; Fish/Wildlife/Wild Horses; Geology/Mining/Energy; Lakes/Springs; Lands; Livestock Grazing; Noxious Weeds; Off-Highway Vehicles/Snowmobiles (OHV); Planning and Process Issues; Recreation; Roads/Access; Special Management Areas/Areas of Critical Environmental Concern; Socioeconomics; Special Recreation; Vegetative Ecosystems; Water Quality/Water Quantity; Wilderness/Wilderness Study Areas (WSA); Wild and Scenic Rivers; Soils; and, Other. Less than two percent of the comments (Other) listed in the table were considered beyond the scope of this planning process and will not be addressed in the RMP/EIS.

The following is a bulleted summary of comments listed by category with the exception of the comments categorized as Other, which are not further addressed in this summary.

Alternative Choices

- There was support for currently proposed Alternatives A, B, C and D.
- Cooperative management and promoting current and historical uses that are sustainable need to be focus of all alternatives.
- An Alternative E (No discretionary commercial use) should be proposed.
- All alternatives should meet the legislative requirements for the CMPA mandated by the Act and other laws and regulations.
- RMP should cover an adequate range of alternatives that are comprehensive and reasonable as required by NEPA.
- Alternatives should balance resource uses and ecological integrity.
- The BLM must evaluate a reasonable range of alternatives in the Draft EIS.
- Alternatives should be considered simply and within the intent of the legislation.
- Alternatives should be framed around the Steens Act Section 102 and meet the objectives of Sections 102 and 111.
- The “no grazing alternative” is not possible within the CMPA based on the Steens Act.
- Socioeconomics must be analyzed in all of the alternatives.

Cultural

- Interest in protection, preservation and interpretation of cultural resources.
- Cultural Resource sites should be closed to off road vehicles.
- The RMP should consider the Archaeological Resources Protection Act, provide for further inventory of the Planning Area, and protect known and reasonably inferred resources within the area.

Development Issues (commercial, recreation, signs, trails campgrounds, toilets)

- No development on Steens Mountain and keep everything primitive.
- The BLM should minimize recreational development including new trails and signage.
- Post rules or educational signs only at the entrance and/or down in the low areas.
- Consider another campground on the east side of Steens Mountain in the vicinity of Alvord Playa and Pike Creek.

- Hiking trails in wilderness/WSAs should not be initiated, but existing recognized trails could be maintained in a manner that keeps the path primitive.
- No new fences or other developments should be allowed and existing developments should be removed unless specifically authorized by the establishing legislation.
- No commercial development, no resort or concessionaire, no concrete parking lots, no RV parks and no housing developments.
- Don't pave the road or build a visitors center or anything like that.
- Construct an information booth or kiosk with bathrooms in Frenchglen or somewhere in that area.
- Develop a short walking trail in the Page Springs Campground.
- Develop the Fir Grove trail that was originally proposed in the SEORMP.
- More campgrounds along Fields/Denio Road especially along east face of Steens.
- Focus development on passive recreation, such as hiking and nature study, over destructive activities such as hunting and vehicular recreation.
- No more roads or campgrounds but a pit toilet on top and a few trails might be good (trails into Wildhorse Lake, Kiger, Blitzen and Big Indian and along summit rim).
- Make it very difficult to get permits for habitation or any damaging mining, logging, or drilling.
- A proactive and comprehensive plan to prevent recreational and commercial development except in very limited areas must be included in the RMP.
- Pursue land exchanges and conservation easements; work with landowners to prevent development of lodges, condos, summer homes, etc.
- Trailheads and campgrounds should be designated and constructed with the historic and current equestrian use in mind. Turn-arounds, trailer parking spaces, and camping areas must be designed with stock use and today's large stock trailers in mind.
- Pullout places should be provided along the roads to accommodate day use or camping.
- Please consider developing new campsites away from the mountain and in areas where increased use will not adversely affect the environment.
- Utilize fences to manage lands, designate wilderness.
- Maintenance and development of water developments should continue.
- Any development in the area must comply with the Wilderness Act.
- Any permanent recreational structures should be located outside the wilderness boundary.
- Avoid overdevelopment of trailheads and upgrading of wilderness access roads.
- Some areas within WSAs may warrant minimal developments such as pit toilets, garbage cans, fire rings and appropriate signage.
- Management decisions could include maximum number of designated campsites allowed within a certain distance.

Fire

- Fire rehabilitation deemed necessary should only be done to prevent ecological degradation.
- RMP must give specific direction on a natural/prescribed burn plan.
- Fire management policies must emphasize grazing as a superior alternative to burning.
- Designated replacement grazing acres must be incorporated into any prescribed fire management plans to minimize economic loss to grazing permittees.
- Wildfires should meet a specified prescription to be allowed to burn especially in Wilderness, WSAs and RNAs.
- Develop fire suppression techniques to reduce damage caused by suppression equipment. Vehicles and equipment should especially be restricted in wilderness, WSAs, ACECs/RNAs.
- Burned areas must be rested from livestock grazing and other activities for at least ten years following a fire.
- Prescribed fires, especially in Wilderness, WSAs, and RNAs, should only be done when fire ecology is better understood.
- Fire/fuels management must continue.
- The RMP/EIS must address how the rehabilitation plans will deal with cheatgrass invasions.
- The RMP/EIS must be explicit in the criteria to be used to decide when and where prescribed fire will be used.
- Construct the policy for fire rehabilitation with regard to critical wildlife habitats.
- Prescribed burning should occur in the summer, when wildfires normally occur.

Fish/Wildlife/Wild Horses

- Leave wild horses alone, maintain herds, manage them in a sustainable manner through capture and adoption, keep them off grazing allotments, address wild horse herd management in the RMP and adhere to the 1971 Wild and Free Roaming Horse and Burro Act.
- No dams, protect the native trout and address fisheries management issues concerning the trout preserve.
- Areas containing redband trout should be catch and release.
- Biodiversity should be the first management concern and inventories and monitoring should be conducted.
- Animal damage control activities should be held to the same restrictions as other activities in Wilderness, WSAs and in ACECs.
- The no livestock grazing area should remain open to wild horses.
- Consider expanding South Steens HMA to include Fish Creek/Big Indian Allotment.
- Wildlife management requires cooperation with private property owners.
- Predator control program must continue.
- When dealing with Special Management Areas (SMAs), USDA WS will use the preferred method of choice (aerial hunting) for coyotes, which in most cases is the least intrusive to these sites.
- Wildlife habitat must be managed in a method consistent with livestock grazing and production of forage for wild and domestic ungulates.
- No predator control is the greatest threat to sage grouse populations.
- The option to protect game or threatened and endangered species from predation as well as address wildlife threats to human health and safety should be present in the plan as well.
- The RMP/EIS should include measures to improve the likelihood of persistence of sage grouse and other species dependent on sagebrush and rangeland habitats.
- The draft plan should clearly state how it will adhere to "Greater Sage-Grouse and Sagebrush-Steppe Ecosystems Management Guidelines" (2000).
- The RMP/EIS should comply fully with the BLM National Policy on Special Status Species (BLM 6840 Manual).
- It is critical that the RMP/EIS incorporate recently adopted sage grouse guidelines that were developed by the Western Association of Fish and Wildlife Agencies and published in the *Wildlife Society Bulletin* (28:967-985).
- Important parameters such as grass residues for sage grouse nesting cover must be addressed and the BLM must make some hard and needed changes to improve the sage grouse's plight.
- Special status species on the Andrews RA should be covered under the RMP so that their priority habitats are clearly identified and management standards and guidelines are adopted.
- The RMP should specify that transplanting to or removing game from wilderness should not entail the use of motorized equipment.
- In Wilderness, the RMP should not allow manipulation of native wildlife populations for purposes of artificially augmenting hunting or fishing opportunities.
- The mainstem Donner und Blitzen and its tributaries should be limited to catch and release, barbless flies and lures only.
- If the redbands are going to be protected and the resource improved, people should not be allowed to fish with bait or kill redbands.
- If anglers want to kill and eat fish, that should be limited to the lakes in the area.
- The weir at Page Springs should be removed or altered for better fish passage.
- There is room for habitat improvement on the stretch of river below Page Springs to Krumbo Reservoir.

Geology/Mining/Energy

- Prohibit all mining and geothermal exploration or development and prohibit all oil and gas development.
- Leave the 1872 mining law alone.
- Since 900,000 acres of the planning area have been withdrawn from mineral production, emphasis on development of mineral resources must be a priority for the remaining acres.
- Address potential development by geothermal power within the resource boundary.
- Energy and Mineral lands may be necessary in the near future and should be considered.

Lands (private, exchanges, easements)

- Address Native American lands, private property and mineral rights and property sales.
- Discourage the development of private land and secure private property to consolidate federal lands through exchange, sale or donation of remote, non-contiguous or land-locked holdings.
- Specific concerns about private parcels and how private landowners will be affected (see Scoping Table).
- Concerned that if the public is restricted from recreating on public land they may be forced onto private land and then private landowners will restrict access to their lands.
- Transfer private lands out of "Fork Big Trout Creek" valley.
- McClains cabin area and Reschene Spring should be transferred to BLM to block up area with proposed wilderness area.
- Transfer Denio Basin private land out to become public land.
- Private lands and realty should remain in place or traded for equal value. Public lands do not support the economy of Harney County. Private businesses do.
- The private lands in the wilderness earmarked to be acquired and exchanged, should be acquired. and exchanged.
- Protection of private lands should be a priority.
- Private property rights should be recognized in the RMP and the interrelationship with BLM lands should be addressed.

Livestock Grazing

- No grazing on the mountain.
- AMPs need to be re-assessed from an ecosystem viewpoint.
- BLM should identify and close all grazing allotments in the Andrews RA, that are not suitable for grazing.
- BLM should identify special management areas that would allow for closure of allotments where a grazing permit is voluntarily relinquished.
- Assess conflict between livestock grazing and wildlife forage.
- Please keep cattle off sensitive areas subject to harm by grazing.
- Phase out all grazing in all wilderness and WSAs asap.
- No new areas should be opened for grazing.
- I would like to continue the grazing rotation system that we are using in the riparian area of Riddle Creek and Coyote Creek. It has improved the area in the last ten years.
- Why isn't livestock grazing an "issue"?
- Address whether livestock grazing should be used as a tool to mitigate and/or to abate potential wildfire.
- Please use the grazing standards used in the conservation ranches in New Mexico where cows are moved very often and have their own water holes.
- Soil stability and impact on native vegetation and Redband trout should be crucial factors when considering grazing management issues.
- The BLM should provide for automatic plan amendments (decided under a categorical exclusion [no need for supplementary NEPA]) to define grazing allotments as unsuitable if a permittee participates in a permit buyout deal with a conservation group or other agency that wishes to permanently retire an allotment from grazing.
- The RMP/EIS must address how individual grazing allotment plans will be incorporated into the overall plan.
- Stocking rates of all herbivores must be addressed.
- During the Scoping Process, the "Big Field" in the Riddle Ranch, Inc. allotment was divided in half length-wise, the line running north and south. If ever this line is fenced, there is no livestock water in the east half.
- In a land trade, a third party's grazing permit should not have been deeded to another without his/her permission. In cases where this has happened and cannot be revoked, the permittee losing the permit should be given equal AUMs elsewhere.
- The area of Riddle and Coyote Creeks are included in the CMPA with the line even going through the middle of one field. All of this area plus the connecting land are in one permit of one ranch. The entire permit in the Three Rivers District is presently under a management plan that is showing improvement and its rotation system is successful, therefore, the entire permit should continue to be managed under the plan in place.
- Riparian and wetland areas should be grazed. Grazing is necessary for wildlife management.
- I suggest you consider allowing a rancher to graze buffalo within the "No Livestock Grazing Area".
- Cows should only be grazing on lands that receive more than 12 inches of precipitation per year.
- It would be helpful to publish pasture use dates once a month in the local newspaper.

- I would like to see the BLM print individual maps and construct large map bulletin boards showing allotment and pasture boundaries and the authorized grazing dates.
- The grazing season in the desert pasture in the Pueblo-Lone Mountain allotment and areas north, Mahogany point and Fields Basin, need to be shortened. The season of use should end September 1 or mid August.
- The Pueblo-Lone Mountain allotment three year re-evaluation that was to have been started at the end of the 1998 grazing season needs to happen.
- The Andrews/Steens Resource Management Plan needs to recognize the need to protect livestock that legally graze on or adjacent to legal federal grazing allotments.
- I am a firm believer in striking a balance between ranching and protecting the environment.
- Set up a process to reassess livestock grazing and permit it only as it supports the restoration of ecosystem health as part of an ecosystem management plan.
- The BLM must stop permitting the grazing of livestock where riparian habitats are no longer functioning at their full capacity, where grazing is causing or contributing to violations of water quality standards, where grazing is damaging soil health and where grazing is degrading or prohibiting recovery of microbiotic crusts.
- We recommend that information and data on range condition and frequency of allotment evaluations be tabulated and displayed for easy review by the public.
- Clear data on range condition should be compiled and listed so that information on the category (I, M, or C) is listed along with the dates and results of all allotment inspections.
- Livestock grazing will be allowed only where it has been found to be suitable and the lands chiefly valuable for livestock grazing.
- Ranching interests depending on the land in the area must be allowed to continue to use the lands as they have in the past unless they choose to change.
- Whenever adequate monitoring is not carried out, or evaluation of the monitoring cannot take place within a year of data collection, then livestock grazing must be immediately terminated pending completion of monitoring and evaluation.
- Livestock grazing shall be terminated or otherwise reduced unless it can be shown that grazing does not cause or contribute to the spread of invasive weeds.
- Livestock grazing shall be terminated or otherwise reduced unless it can be shown that grazing does not cause the destruction of microbiotic crust or retard the restoration of microbiotic crust.
- All temporary non-renewable permits shall be permanently withdrawn.
- The Oregon Farm Bureau would support only a plan that allows livestock grazing to continue on the area as it was prior to the creation of the CMPA.
- The BLM must assemble the information to understand the impacts of grazing and present and analyze that information in the RMP/EIS.
- BLM should allow for the voluntary relinquishment of a grazing permit for conservation.
- The BLM must consider whether an allotment is meeting the Standards and Guidelines.
- The BLM must address grazing suitability at the RMP level.
- Please ensure the RMP/EIS discloses adequate criteria for the BLM's assessment of acres suitable for livestock grazing.
- Promotion of viable and sustainable grazing is one purpose of the Steens Act.

Lakes/Springs

- No camping at Wildhorse Lake or at Mickey Hot Springs.
- Improve Mann Lake and protect Borax Lake and Springs.
- Install outhouses at Frog Spring.

Noxious Weeds

- BLM should engage in an aggressive policy of weed eradication using chemical, grazing and biological techniques.
- Perhaps the noxious weeds could be eradicated by benefit of companion planting which would thereby eliminate them without the utilization of harmful chemical intervention.
- Tell people to quit bringing them in. Catch the people who are bringing them in.
- Noxious weeds must be controlled by burning or spraying.
- The BLM must comply with the Executive Order on Invasive Species.

OHV/Snowmobiles

- Eliminate winter motorized use (snowmobiles) on Steens.
- Eliminate snowmobile use access to the Steens.
- Snowmobiles should not be allowed in wilderness or WSAs.
- Eliminate ATV travel on all roads except maybe the Loop Road.
- Assess ORV designations and limit use throughout the Andrews RA.
- I strongly support the designation of snowmobile play areas within the WSAs on the Steens consistent with historical use before the Act.
- No snowmobiles at Fish Lake.
- Off-road vehicle use should be banned in all existing Wilderness Study Areas (WSAs) and trails where such use conflicts with other resource values.
- I request that off road vehicles be restricted to designated roads.
- OHV and snowmobiles are the perfect way for AMERICANS to visit OUR public lands.
- Regulate and monitor ORV use in non-wilderness areas.
- Whenever ORV's are discussed, the OHV strategy is referred to as guidance. While it is indeed a handbook for BLM staff use, appropriate laws, regulations and executive orders are the ones that establish criteria that will hold up in courts.
- OHV use should be classified as limited or closed in the Steens area covered by the Act. Limit OHV use to recognized routes and in some places seasonal restrictions should be applied to reduce or eliminate damage to roads - to the same for the Pueblos and Trout Creek Mountains. Close the main Trout Creek loop road in the winter along with most of higher elevation routes in the Pueblos. Close OHV use in RNAs and Wilderness. There could be some open areas like in the Catlow Valley. An analysis or research should be conducted to determine the legality of allowing OHV use to occur in the Alvord Playa.
- Areas that have been open to snowmobiles should remain as such as long as they stay over the roads.
- When discussing ORV designations, the Preplan says that the CMPA outside the Wilderness will be "limited to existing roads" but Sec. 112(b)(1)[B] of the Steens legislation requires 'designation' of any roads that are to be used in the transportation plan. Designated vs. existing is an important distinction.
- You can limit access of snowmobiles to the areas least likely to be damaged or destroyed by them.
- I am very concerned about BLM's interpretation of the Steens Mountain Act as to the use of snowmobiles within the management area.
- I am asking that BLM work with all the snowmobilers of Oregon and develop a sound plan that will allow us to have trail and play areas and to be able to continue to enjoy our sport in the Steens Mountain.
- As part of a recreation plan, BLM should evaluate designating trails for motorized use both summer and winter. BLM should fully evaluate designating a trail area for a snowmobile play area.
- The Alvord Desert WSA was not grandfathered in by FLPMA as an open dune and Burns BLM has been in violation of regulations by allowing open use. This RMP is the appropriate place to correct this error.
- The RMP/EIS must address an adequate range of alternatives with respect to OHV use; must manage OHVs pursuant to FLPMA's principles of multiple use and in accordance with FLPMA's requirement to prevent unnecessary and undue degradation of the public lands; and must conform to Executive Orders 11644, 11989, the BLM's "National Management Strategy for Motorized Off-Highway Vehicle Use on Public Lands," and the BLM's OHV regulations.
- Areas open to OHV use must minimize harassment of wildlife and disruption of wildlife habitats and minimize conflicts with other recreational users of the public lands.
- The BLM must present inventories and evaluations of the effects of OHVs in ecosystems and specific ecosystem components such as soils, microbiotic crusts, fish and wildlife and their habitat, native vegetation, and the spread of weeds. Unless and until the BLM provides this information, the public lands should be closed to OHV use unless specifically designated as open.
- OHV use must be allowed for managing allotments and public lands.
- SMAs should be closed to OHVs.
- OHV use should not be restricted outside of CMPA unless monitoring indicates permanent damage from use.

Planning Process Issues (RMP/EIS, Scoping)

- In the scoping meetings explain many features that are unique in the Steens Act.
- Information was received too late to avail the use of public meeting dates.
- The amount of information provided and the willingness of the representatives to answer my questions at the scoping meeting was impressive. The graphic presentations and maps at the scoping meeting were very well done.
- I urge you to welcome constructive public involvement in any form. Use the comments to demonstrate that this area is of national interest, and to support BLM's best efforts to fully protect the wilderness character and native ecosystems of the Steens area.
- Each letter is unique as it is sent from a different person, please treat each letter individually and do not diminish the voice of the public.
- We support this open process of comment and review.
- Plan should be comprehensive and written to be understood by a lay person.
- The Andrews Management Plan and Steens Management Plan should be separate.
- The RMP should be site specific and not include the SEORMP or ICBEMP.
- The comment process should be extended until June.
- Intent of the Steens Act is to emphasize Cooperative Management. Purposes 1, 5, 10, 11, 12, and 13 of Section 1(b) of the Steens Act should guide the process.
- Baseline data must be collected.
- The Proposed SEORMP says that the comments received when the Andrews RA was included in the SEORMP process would be used in the RMP for Andrews.
- I recommend reviewing the Protest filed by ONDA, et. Al., on the PSEORMP to see the way in which the environmental community might react to proposals put forth within this RMP.
- There are fewer and fewer places left in Oregon that have not been destroyed by improper use and over-use. It is late in the game, but it is time to call a halt to the abuse of public lands. We must learn to live with nature, not try to mold it for our short-term profits. We plead with you to include these concepts into the planning process.
- Item 9 on page 13 [Preplan] says the Science Advisory Committee will be established, but the legislation seems less conclusive on whether one is mandatory.
- BLM is contending that it cannot meet the legislated deadline for completing the Andrews RMP if it were to try to analyze limiting recreational and ORV use and to assess AMPs. Given the importance of these issues however, BLM needs either to hire consultants or establish a schedule for handling them through separate EISs to be completed after the LUP.
- Address issues 4 [wildlife habitat], 6 [energy and minerals], 9 [recreation management], 10 [lands and realty], and 14 [OHV management].
- You are the trustee of a very special place belonging to all American citizens. Please ensure that the interests of all citizens of this country are recognized in development of the RMP.
- Monitoring must be conducted.
- Effectiveness monitoring and evaluation should be integrated with land use and implementation plans to establish thresholds for various resource parameters that have been identified as triggers or indicators that a new decision is required. We recommend that this process, which provides an objective, science-based means of determining whether a new plan decision is required, should be used in the Andrews/Steens RMP.
- It is important that plans be current and address pressing issues such as fire rehabilitation and conservation of sage steppe habitats. It also is important that plans be based on the direction provided by the Interior Columbia Basin Management Project (ICBEMP) as well as the latest federal laws, regulations, standards, guidelines, and policies.
- Management under the new RMP should be conducted as an experiment so that ten years from now we will have learned as much as possible about the effects of our land management activities.
- We believe the BLM must plan for long-term stewardship responsibilities that do not permit an irreplaceable or irretrievable loss of resources.
- Much of the CMPA boundary was drawn on section and township lines. In several places this isn't compatible with the topography, permits, and/or existing fences.
- We ask that the RMP clearly reiterate the clear intent of Section 121, which is that the Secretary may enter into cooperative management agreements with local interests only if doing so is appropriate to achieving resource or land use management objectives.
- The RMP/EIS must provide meaningful objective, numerical standards for management of rangelands and their associated vegetative and soil resources. NEPA requires that resource management plans inform the public and decision makers how the resources will be managed in the future.

- There has been considerable controversy over the “cooperative management” language in the Steens Act. We request that the RMP address this language straight-on so as to clarify any confusion regarding how it will affect management of the CMPA and wilderness.
- The High Desert Committee would like the Burns BLM to keep in mind that the time line mandated in the Act for the CMPA does not apply to the Andrews MU. We understand combining these plans, however, we do not want important aspects of the land use planning process to inadequately addressed as a result. The Andrews MU can be pulled out and dealt with separately, contractors can be hired to provide more assistance, or parts of the process can be mandated to be dealt with by separate EISs within a specific period after the RMP is completed.
- True standards having a definite timeline shall be incorporated.
- In order to fulfill NEPA and FLPMA directives, the BLM must consider and give credence to the overall goal of landscape level health and properly functioning ecosystems.
- Adaptive management requires that well developed and statistically valid monitoring programs be in place to identify the positive and negative effects of management.
- We urge the RMP to adopt the following analysis of what the Act meant by establishing the potential for cooperative agreements: all cooperative agreements with any party must still be governed by existing law, policy and regulation; it is common policy across the federal land management agencies to reach out cooperatively to local communities and interests when formulating management direction.

Recreation (hiking, birdwatching, camping, hunting)

- Limit recreational use to protect solitude.
- Work with the State of Oregon Wildlife folks to reduce hunting permits issued on the Steens.
- The existing wildlife populations must be of paramount concern for recreation management.
- BLM should consider limiting party size and perhaps imposing quotas on permits for especially sensitive areas.
- The ad hoc campground across the road from the Alvord Hot Springs has to be prevented.
- Camping etiquette should be a priority.
- The best use of the vast majority of the lands is for dispersed recreation.
- Install a horse unloading facility near the Little Blitzen trail head on the north side of the Loop Road to reduce horse and traffic conflicts.
- Monitor dispersed camping in sensitive areas for signs of high/negative impact and regulate if necessary.
- Design new facilities for management (not promotion) of recreation.
- Overnight camping at Wildhorse and Little Wildhorse Lake should not be allowed.
- I support winter recreation on Steens Mountain. I think opportunities should be expanded to provided public access to use public land near or on both the North and South Loop Roads and I support the designation of trails within the CMPA for year-round motorized use.
- Encourage and promote primitive recreation and the enjoyment of the areas scenery and solitude.
- Recreation management plans must emphasize public access, maintenance of public roads and trails, including RS2477 public roads.
- Establish a recreation use carrying capacity especially in Wilderness and ACECs.
- Please keep the Steens open to horse and equestrian use. Don't close the horse camp.
- Address signage and trailhead parking areas for Pueblo Mountains area and Trout Creek Mountains area.
- Recreational sites can be defined in the RMP as something quite different from Wilderness and should be described to eliminate those activities which undermine those natural and primitive qualities provided by wilderness experience.
- No horse or pack animals should be allowed in the Wildhorse/Little Wildhorse Canyons.
- The plan should establish group size limits that apply equally to private visitors and commercial outfitters.
- BLM should fully engage in a recreational plan for the CMPA as part of the RMP/EIS.
- Regulations should not reduce the number of recreational stock use days below approximate levels existing at the time the Steens Mountain Wilderness was designated.
- If total use is allowed to increase beyond that which existed at the time of classification as Wilderness, recreational stock use should be allowed to increase at a proportionate rate to which existed at the time of classification.
- I am interested in your treatment of the Donner und Blitzen River in your RMP. With all the other wonderful things the Steens are, it is also an excellent whitewater experience for the few who run it.
- We presume then, that provisions in the 1964 Act recognizing the public purposes of “recreational, scenic, scientific, educational, conservation, and historical uses,” and the mandate to preserve the character and conditions that existed at the time the area was included in the National Wilderness Preservation System, will

apply to recreational stock use and grazing will be allowed and managed, as a component of total use, as necessary to achieve that mandate.

- Proposed regulations that further restrict recreational or historical use must be based on verifiable evidence that such use is resulting in a deterioration of wilderness character and conditions.
- It is critical that current baseline data be collected and added to that which is already available.
- Camping should be restricted to sites designated with fire rings.
- If a maximum party size is determined to be necessary, in consideration of the use that has occurred in the Steens in the past, we suggest that it be set at a relatively high level. We recommend a standard similar to the USFS Region 5 maximum party size in their larger northern wilderness areas, 25 people without consideration for animals to start with.
- The BLM needs to consider how to keep people on developed trails around popular overlooks such as Kiger Gorge.
- I am concerned about the future of recreation on the Steens Mountain. I am very concerned about BLM's interpretation of the Steens Mountain Act as to the use of snowmobiles within the management area.
- We are very concerned that agency administrators will react to pressure from extremist elements of the Wilderness community and impose unnecessarily restrictive limits or regulations based on their perceptions of recreational impact or their personal values and preferences.
- We insist that the following statement (which should have been included in the Act of 2000) is included in the Management Plan: "Traditional recreation saddle and pack stock use is an appropriate, current, and historical use of the Steens Mountain Wilderness."
- It would be premature to propose limits on recreation use until a baseline inventory of existing conditions is completed and monitored for an adequate period to determine if recreation use is resulting in unacceptable levels of impact.
- Neither the Wilderness Act nor the Steens Act mandate improvement of the condition in the designated Wilderness area to a higher standard than existed at the time the Wilderness was created. Both, however, require that traditional forms of recreation be preserved.
- Broken Trails would like the BLM to maintain quality recreation opportunities in the Andrews Resource Area for individuals as well as commercially guided groups.
- I strongly support the designation of trails and play areas within the management area including the WSAs. I believe this would be consistent with the historic trails and play areas historically used before the Act was passed.
- The BLM needs to curb illegal recreating use, guided or otherwise.
- I do not want my uses on public lands, motorized and non motorized, to be restricted, or if restricted to be no more than is actually necessary within the spirit and intent of the Act.
- The BLM needs to avoid "parklike" management practices, i.e. designated campsites, toll fees, BLM ranger guided tours for a fee.
- Non-motorized recreational use should be allowed on the loop road.
- We believe you will need a permit system for camping and overnight use to encourage registering, control numbers and to provide information on user ethics.
- Campfires are a difficult issue and should be decided based on the resource (is there enough wood, what is the fire danger). We are in favor of requiring camp stoves.
- Include a provision that camping areas and trails may have closures when the resource is impacted beyond acceptable levels.
- Hunting, fishing and recreation are historic use and should be continued.

Roads/Access

- Eliminating roads due to inaccurate classifications as "ways" is bureaucratic manipulation.
- The BLM should make a seasonal closure on the Moon Hill road from the end of elk season to the middle of March as goose hunters and snowmobilers tear up the road to where it is impassible.
- Vehicle use should be limited to established roads.
- Close all the cherry stems in the Wilderness to as part of the Transportation Plan.
- No new roads should ever be built on that mountain.
- Allow reasonable access for inholders and ranchers, but only that minimally necessary under the Wilderness Act and establishing legislation.
- Maintaining access to recreating areas and private property is essential in the management plan.
- Please restrict motorized use to designated roads and close all trails where conflicts with other resource values exist.
- Address land use and public access.

- Maintain motorized access as currently regulated.
- As a handicapped senior citizen, the only way I'm able to enjoy and visit the Steens area is by motorized transportation. I would like this area to be kept open for motorized use on existing trails and roads.
- Address closure of "ways" to vehicular traffic to limit the spread of noxious weeds.
- I would like to see the north and south loop roads designated for winter trails and some play areas for hill climbing.
- Please leave unroaded areas road- and vehicle-free.
- I would encourage another look at the application of your agency's definitions for what a road is and what a "way" is. Seems to me that there are many roads (now) defined as "ways". Obviously this by itself has substantial "restrictive" impacts.
- All the jeep roads should be closed except to nonmotorized transportation.
- Establish the roads for other vehicles outside the Wilderness area.
- Do not pave the Loop road.
- We would like to see the South Loop Road in the vicinity of the Rooster Comb section to remain rough or better yet, closed and rehabilitated.
- Close Arizona Creek Road from east WSA boundary to Stergen Meadows.
- I would like to see more access for hiking and birdwatching on the eastern side of the Steens, can some public easement be worked out to provide access for hikers and climbers to access high eastside basins. I oppose ORV access and am only talking about pedestrian access.
- I do not want my uses on public lands (motorized and non-motorized) to be restricted, or more restricted than is actually necessary within the spirit and intent of the Act.
- You should encourage the building of trails with good signs while reducing areas accessible to vehicles.
- I would like to be able to drive anywhere that is needed on my grazing permit. So I can fix fence, repair reservoirs, scatter salt or do whatever is needed.
- The BLM now sanctions some motor vehicle use in the Wilderness allowing an outfitter motorized access to leased land within the Wilderness and for a realtor to drive clients to a parcel of private land also within the Wilderness. This type of motor vehicle access must be denied.
- Decisions on access to private inholdings should be evaluated on a case-by-case basis with opportunities for public comment. Past modes of transportation should not be used as the main criteria for determining access. Instead, foot and horseback access should receive priority consideration to protect the area's wilderness values.
- I would like to see part of the Alvord Desert be closed to motor vehicles.
- One mile of open road per six square miles of land is acceptable for both hunting and wildlife enjoyment.
- Take hunter access into account when you are closing roads (for those who do not have horses or ATVs).
- Continue to close Loop road in winter.
- Allow vehicle travel only on roads that are posted open.
- Administrative use of motorized vehicles should be addressed in Wilderness, WSAs, and RNAs. While certain administrative use is permitted, it should not be just for convenience. Hiking or horseback activity should be a rule for administrative use with only rare exceptions permitted.
- The industries that create all new wealth and harvest resources ... must be allowed access and use of the land.
- The Steens Mountain CMP Act guarantees landowners reasonable access to their private lands with the CMPA including lands and interest therein within the Wilderness. Since the private lands within the CMPA were homesteaded, landowners have had the right to free, unrestricted and unfettered access to their lands. According to PL 106-399, BLM cannot make any decision which affects these rights to real property. Any attempt to change the private landowner's, and interests therein, current and historic access would be a violation of at least four different parts of the Steens Mountain CMP Act.
- We recommend the BLM complete a road and trail atlas (inventory) and a transportation plan for the Andrews/Steens planning area.
- As part of the winter recreation planning, BLM should evaluate ways in which more of the public lands can be accessible for all public use.
- The Transportation Plan and the final decisions on open and closed roads are very important to current and historic recreational and other public use is protected including dispersed use camping areas, pull-outs and other areas of use which may not be considered within the boundaries of a "road".
- BLM will have to identify and allow for at least the minimum road maintenance required to ensure the agency meets its obligation of allowing access to both private and public lands.
- Please consider limiting access to roads that can be maintained and that access to unique and sensitive habitats such as wetlands and riparian areas be limited.
- Access should be controlled by permit to assure that the wilderness experience is maintained.
- End motorized access of inholdings.

- Transportation plan may find it necessary to bus more and more people to the high Steens and other popular areas, as visitor numbers increase.
- All minor roads, unnecessary for BLM management, should be closed.
- Assess the desirable practicality of leaving existing roads and ways open as cherry stemmed access ways for the motorized recreationist.
- We are not happy with restricting access within the management area.
- Regarding access to private property, landowners need the security of permanent general easements that remain intact even with land ownership changes. Easement location should be economical for the private landowner to create or maintain. Access by permit would be a constant concern to the landowner, as permits can be challenged and/or eliminated.
- Close/block access to jeep tracks and post open roads to inform people that unless posted as open, any road/track is closed to vehicle use.
- Carefully control motorized access to private inholdings so as to minimize disturbance to wildlife, fragile alpine vegetation, scenic vistas and the quiet enjoyment of this wonderful mountain environment.
- Any ways that have deteriorated from non-use to the extent no longer easily visible, should specifically be excluded from use by anyone working in WSAs.
- The RMP should identify the size and location of all state and private inholdings within the Steens Mountain Wilderness and specifically stipulate that individual special use permits will be required for any proposed motorized access to inholdings, as required by 43 CFR part 2920 regulations. The RMP should also state that special use permits will be evaluated within a NEPA process and the RMP should reiterate the three criteria for determining access to inholdings as described in national BLM regulations (43 CFR Part 6305).
- During winter the loop road should be closed to all motorized use.
- We ask that the RMP confirm, as an important statement of policy, that a special use permit will be required for each livestock permittee requesting motorized access into the wilderness. The RMP should specify that the special use permitting process must include a site-specific minimum requirement and tool analysis using the Carhart model.
- Trailhead parking areas should be kept to a fairly small size to discourage future crowding and loss of wilderness solitude.
- The Transportation Plan should be the second priority in planning after economics.
- Law enforcement must be addressed in the Transportation Plan.
- Access should be provided unless substantial impairment or damage occurs.
- It is not consistent with the Steens Act to require permits to access inholdings within the wilderness, plan should utilize notice of reasonable and normal access.
- Designate roads as private property access roads.

SMAAs/ACECs

- Establish more RNAs for native plant communities.
- Each native plant association/community type should be represented in more than one RNA
- What does this do to the rights of landowners. Who manages the area? How is the management paid for?
- An inventory of the lands within the Andrews Resource Area should be undertaken to identify "areas of critical environmental concern in accordance with 43 USC 1711(a).
- A new plan for the Andrews RA should give priority to areas of critical environmental concern.
- In ACECs/RNAs a recommended goal where unique plants, wildlife or scenic attributes are involved could read, "Activities are allowed that enhance the values that made the area unique."

Socioeconomics

- Steens Mountain's greatest economic value is as a destination for tourists.
- Concern about maintaining the economic base of local communities as is required of federal land management agencies under the federal code of regulations and various federal statutes.
- Riparian and wetland areas must be managed for production of forage for domestic wildlife woodland management resulting in a sustained output of goods and services that can be captured by local communities, recreation, mining and off-road vehicle use.
- Socioeconomic considerations must emphasize sustainable local communities. Emphasis must be management alternatives selected to sustain, maintain and enhance commercial, value added and job creating opportunities.
- The needs of the local citizens must take priority over all other interests.
- If WS wildlife management activity is reduced in magnitude or not allowed at all, there would be an adverse effect on the local rural economy.

- The draft RMP/EIS should focus closely on the economic needs, both current and future, of Harney County and its residents.
- Every effort should be made to protect the natural resource economies of the communities which will be potentially affected by the management of the Andrews/Steens Planning Area.
- Consider economic feasibility and impacts throughout the RMP.
- The number one issue should be the economic health of Harney County.

Special Recreation (SRPs, outfitters, running camp)

- Establish a good base line of data before issuing any new permits.
- Consider repercussions of permitting entities that have been illegally outfitting for years.
- Permitted outfitters should be allowed at present levels providing they are also included with any equation used to establish carrying capacity.
- The summer running camp Big Indian should be discontinued or be subject to any group limitations and should be off limits in RNAs.
- Limits of Acceptable Change might be a good management avenue to figure out use and activity, especially in Wilderness/WSAs.
- Any group that the agency plans to permit needs to be licensed in the state of Oregon as a guide.

Vegetative Ecosystems (upland, woodland, riparian)

- Emphasize conservation of biological diversity, ecological processes, plant community restoration.
- Management actions should not keep or place plant communities (seral stages) outside the range of natural variation, or further degrade them.
- BLM doesn't have the money or time to manage resources to improve and maintain the integrity of upland or riparian ecological communities.
- Woodland management should emphasize juniper eradication, with strong emphasis on the capture of fish, fuel wood and primary forest products utilization. Reforestation and afforestation should also be emphasized.
- No vegetation manipulation in Wilderness or WSAs.
- Need to manage high desert vegetation now, before noxious weeds replace distinctive flora.
- The key objective of the RMP/EIS should be maintenance of the sagebrush steppe ecosystem so that important ecosystem functions continue.
- The bottom line of the RMP/EIS should be to ensure that soil stability, watershed health, and ground cover all are within ranges that promote sound ecosystem function.
- The RMP/EIS should consider providing greater emphasis on restoring rangeland habitat.
- Rangelands should only be replanted with native species.
- All rangelands in poor or fair condition should be withdrawn from livestock grazing until they have developed an adequate herbaceous layer and a healthy microbiotic crust.
- All rangelands in excellent condition should be permanently withdrawn from livestock grazing to allow baseline conditions to be studied and to act as a genetic reservoir of native species that are necessary for future reintroductions into degraded rangelands of the region.
- Provide whatever evidence and data that pertains to the causes of unsatisfactory range condition.
- The plan needs to assure that the BLM can continue the effort to manage western juniper over the whole management area, including the Steens CMPA.
- The RMP/EIS must provide objective and numerical standards for management of rangelands and their associated vegetative and soil resources.
- Vegetation management must address ongoing scientific studies.
- Riparian and wetland areas must be managed as dynamic communities.
- Juniper must be controlled.

Water Quality/Water Quantity

- Maintain water sources, protect and restore watersheds, save streams and limit fishing and boating.
- It is imperative that the use of water resources be fairly apportioned in ways that sustain economic values that can be captured by individuals holding valid water rights and grazing permits, and for other uses, including mining and recreation.
- Eliminate grazing from entire planning area, WSAs and adjoining areas in the contiguous ecosystem to improve water quality and riparian habitat.
- Develop a management plan that would prevent pollution of the water or erosion of the banks.

- Do not allow development, grazing or camping near the streams.
- The water taken from Dip Creek could be replaced by the present well on Rincon Flat or by a newly drilled well.
- Taking water via pipeline from any riparian area should not be a part of any BLM projects.
- A comprehensive program of annual water quality monitoring for all major waterways and their tributaries should be implemented immediately including actions to reverse, and then restore water quality through the resource area. BLM should abandon the pipeline taking water from Dip Springs (Pueblo Mountains).
- We recommend setbacks from water for tethered animals, but free roaming animals should not be restricted except around springs.
- We recommend that springs/seeps outside the "No Grazing" designation be fenced with stock water available outside the fence.
- Water developments should be required to function during the hot summer and early fall months after removal of livestock.
- To improve the historic riparian area at Dip Creek, I would propose that the South Rincon reseeding well (identified on the enclosed map) be redeveloped. Another option would be drilling a new well to supply the existing tank and pipeline. The BLM should take over maintenance responsibilities at the Rincon seedings water system.
- Water quality, aquatic resources and fisheries should be managed with common sense with all affected parties involved.
- I urge you to consider accelerating your water development efforts on the lands you manage.
- The draft RMP/EIS must provide for compliance with water quality standards by providing for objective standards with definite triggers and responses to water quality problems. TMDLs should be developed to insure water quality is improved and impaired waters de-listed.
- The draft RMP/EIS should avoid issuance of grazing permits for grazing allotments adjacent to water quality limited streams.
- We urge the Burns BLM District to make the production of high quality water a very high priority.
- The draft RMP/EIS should acknowledge that the primary cause of water quality degradation on the public lands is pollution from nonpoint sources.
- To meet standards and guidelines as well as to avoid violations of the CWA, the plan should include a specific, immediate promise to address water quality standards violations.
- Cooperative riparian management should be addressed.
- Water quality should be addressed in the plan only to the extent that it is authorized by the state.

Wilderness/WSAs

- Steens Mountain should be managed for its primitive and natural conditions through strong enforcement of the Wilderness Act.
- The wilderness and the rest of Steens Mountain should receive a high level of protection.
- The [Wilderness] Act must take precedence over the extremely broad interpretation of the "cooperative and historical" language in the Steens Mountain agreement that interest groups are attempting to impose.
- The BLM should re-inventory wildlands not designated as WSAs for wilderness suitability.
- BLM needs to survey all lands outside WSAs for suitability for wilderness designation, especially since BLM regulations call for this inventory to be done as part of the LUP process.
- The BLM has its present wilderness regulations that should not be circumvented.
- Trailhead signboards should stress the importance of leave-no-trace camping techniques and educate visitors about the special restrictions that apply to traveling in a Wilderness.
- We recommend that land restoration activities be initiated within WSAs where it is deemed natural characteristics have been compromised, unnatural features in a specific area exist, or where wilderness qualities can be enhanced.
- Manage all WSAs and Wilderness as primitive (as described in the Recreation Opportunity Spectrum (ROS) system).
- Trout Creek Mountains and Pueblo Mountains should be made into wilderness areas.
- Protect other lands within the Andrews RA that have not yet received the official "wilderness" designation - Alvord Desert, Pueblo Mountains and Trout Creek Mountains.
- I am opposed to any plan that creates any more useless-wasted wilderness that no one can visit.
- Campfires in Wilderness/WSAs should be discouraged and if monitoring indicates a problem they may need to be excluded.

- In WSAs, not only does FLPMA section 603 and the subsequent IMP need to be followed, but we would like to see the following goal be included: “The quality of wilderness values and attributes would not be diminished.”
- Some fences were said to be removed should wilderness designation occur as outlined in EAs. If this hasn’t been done it now needs to be initiated.
- In its most primitive definition, the term “Untrammeled” is violated in Wilderness and WSAs when fencing is erected because it adversely restricts “Free movement.” Wilderness is also supposed to be areas of “undeveloped Federal land”, but construction of new fences infringe on this mandate - it does not matter if fences were existing before it was a wilderness because the designation of wilderness constitutes a new and different method of land use administration.
- Steens Mountain Wilderness should be managed for its primitive and natural conditions through strong enforcement of the Wilderness Act.
- Assuming that the tiny orphans [of wilderness] created by the Steens Legislation can not be managed as wilderness they should be dealt with appropriately.
- This RMP must prioritize the wilderness values of these public lands.
- Assuming that all of the land exchanges can be completed, we will end up with a number of new Wilderness units that deserve their place within the Wilderness preservation System. The left-over scraps of “wilderness” created by this legislation need to be re-evaluated.
- Adjacent lands excluded from the WSAs should be inventoried for additional wilderness inclusion, as suitable.
- I would like to see current wilderness preserved and expanded a little over the years into the fish Lake creek drainage and down further into Kiger Gorge.
- The Steens Wilderness is an inappropriate name and misleading name ... as there are either 8 or 9 separate and distinct units. It does harm to the concept of Wilderness for the public to think of Steens Wilderness areas as a single wilderness. In reality, what we are dealing with is a number of wilderness areas separated by roads. It is a travesty for people to continue to speak of “The 175,000 acre Wilderness” created by the Steens Legislation and I hope this practice will end sooner than later.
- Strong and active enforcement of the Wilderness Act from low over flights to keeping an eye on pre-existing mining claims.
- Wilderness quality lands on the Alvord Desert, Pueblo Mountains and Trout Creek Mountains must be designated as WSAs.
- Your new RMP for the Andrews RA (including Steens) must emphasize conservation and protection of wilderness values.
- All land within the RMP not originally inventoried for Wilderness potential during the original review required by FLPMA should be surveyed now (pg. 35 discussion says “could”) and any lands originally surveyed should be reviewed for changes that might have occurred to allow them consideration now. This would seem to be required by the new Land Use Planning Handbook and Manual 1600, and the Wilderness Inventory Handbook H-6310-1.
- Wilderness is not the same as a recreation site.
- I am opposed to any plan to help create more Wilderness in Oregon.
- Future management must not detract from the primitive wilderness experience.
- The BLM should continue to avoid management actions that detract from the primitive wilderness experience.
- Section 2(a) of the Wilderness Act refers to wilderness as a singular entity in its own right when it describes “an enduring resource of wilderness.” The analysis of impacts and the affected environment in the RMP should therefore evaluate impacts to wilderness as a separate resource category.
- The RMP/EIS must adequately protect WSAs from adverse impacts from livestock grazing, off-highway vehicles, and actions on lands adjacent to WSAs.
- We urge the BLM to adopt an alternative in its final RMP that adequately addresses grazing pressures within WSAs.
- We request livestock grazing be suspended in WSAs where monitoring shows a decline in ecological condition.
- We request structures, such as fences and water developments, be prohibited from WSAs.
- OHVs should be prohibited from use within WSAs.
- Provisions for strict compliance with legal mandates for wilderness protection and management should be incorporated into the RMP.
- While the BLM has argued elsewhere that recommended WSAs submitted by the President to Congress in 1991 need not be re-inventoried this assumption runs counter to FLPMA and is particularly erroneous with respect to WSA acreages not so recommended in the 1989 and 1991 documents. The BLM must continue to inventory

these lands with respect to their wilderness suitability of those non-recommended areas that may have occurred in the past ten-plus years.

- We also ask that the RMP emphasize that the statutory land use management objective for designated wilderness is the preservation of wilderness character.
- The RMP should adopt a minimum requirement and minimum tool analysis model that will be applied in writing to all administrative actions in wilderness that propose any of the actions prohibited by Section 4(c) of the Wilderness Act.
- The overarching mandate of the 1964 Wilderness Act to land managers is to preserve an area's wilderness character in at least the same quality or better as existed at the time of wilderness designation. We ask that the RMP specifically acknowledge this management mandate to preserve wilderness character in its discussions of topics affecting the Steens Mountain Wilderness and to recognize that wilderness character is comprised of both tangible and intangible qualities which cannot be fully assessed simply by discussing biophysical resources.
- Management methods used in the wilderness should have the least possible impact on recreational users while assuring wilderness values are not impaired.
- Management must be consistent with Steens Act to recognize and allow current and historic recreational use.

WSRs

- Recommend waterways eligible for inclusion in the National Wild and Scenic River System.
- All rivers and streams in the planning area should be designated WSR.
- I am opposed to any plan to designate any stream or river as wild & scenic.
- If all rivers cannot be considered for WSR designation at this time, they should be managed as WSR until the studies can be done.
- Please extend WSR protection to all the tributaries and creeks of Kiger, Wildhorse, Fish, Donner and Blitzen Rivers.
- The Wild and Scenic Rivers Act requires that the administering agency must develop a comprehensive management plan for designated river corridors within three years after the date of designation. This means the Wildhorse and Kiger Creeks plan must be completed by October 30, 2003.
- BLM should utilize this opportunity to inventory and recommend streams in the Pueblo and Trout Creek Mountains as well as streams on Steens which have previously gone unconsidered.

This Page Intentionally Left Blank

Appendix D - Legal Authorities, Planning Criteria, and Management Direction and Consistency with Other Plans

Legal Authorities

Several federal statutes have been enacted over time to establish and define the authority of the BLM to make decisions regarding management and use of public land resources. Following is a list of major legal authorities relevant to BLM land use planning.

1. The Federal Land Policy and Management Act of 1976 (FLPMA), as amended, 43 U.S.C. 1701 *et seq.*, provides the authority for BLM land use planning.
 - a. Sec. 102(a)(7) and (8) sets forth the policy of the United States concerning the management of BLM lands.
 - b. Sec. 201 requires the Secretary of the Interior to prepare and maintain an inventory of all BLM lands and their resource and other values, giving priority to areas of critical environmental concern (ACECs); and, as funding and workforce are available, to determine the boundaries of the public lands, provide signs and maps to the public, and provide inventory data to state and local governments.
 - c. Sec. 202 (a) requires the Secretary, with public involvement, to develop, maintain, and when appropriate, revise land use plans that provide by tracts or areas for the use of the BLM lands.
 - d. Sec. 202 (c) (9) requires that land use plans for BLM lands be consistent with tribal plans and, to the maximum extent consistent with applicable federal laws, with state and local plans.
 - e. Sec. 202 (d) provides that all public lands, regardless of classification, are subject to inclusion in land use plans, and that the Secretary may modify or terminate classifications consistent with land use plans.
 - f. Sec. 202 (f) and Sec. 309 (e) provide that federal, state, and local governments and the public be given adequate notice and an opportunity to comment on the formulation of standards and criteria for, and to participate in, the preparation and execution of plans and programs for the management of the public lands.
 - g. Sec. 302 (a) requires the Secretary to manage the BLM lands under the principles of multiple use and sustained yield, in accordance with, when available, land use plans developed under Sec. 202 of FLPMA, except that where a tract of BLM lands has been dedicated to specific uses according to any other provisions of law, it shall be managed in accordance with such laws.
 - h. Sec. 302 (b) recognizes the entry and development rights of mining claimants, while directing the Secretary to prevent unnecessary or undue degradation of the public lands.
2. The National Environment Policy Act of 1969 (NEPA), as amended, 42 U.S.C. 4321 *et seq.*, requires the consideration and public availability of information regarding the environmental impacts of major federal actions significantly affecting the quality of the human environment. This includes the consideration of alternatives and mitigation of impacts.
3. The Clean Air Act of 1990, as amended, 42 U.S.C. 7418, requires federal agencies to comply with all federal, state, and local requirements regarding the control and abatement of air pollution. This includes abiding by the requirements of State Implementation Plans.
4. The Clean Water Act of 1987, as amended, 33 U.S.C. 1251, establishes objectives to restore and maintain the chemical, physical, and biological integrity of the Nation's water.
5. The Federal Water Pollution Control Act, 33 U.S.C. 1323, requires the federal land manager to comply with all federal, state, and local requirements, administrative authority, process, and sanctions regarding the control and abatement of water pollution in the same manner and to the same extent as any non-governmental entity.
6. The Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-712; Ch. 128; July 13, 1918; 40 Stat. 755) as amended by: Chapter 634; June 20, 1936; 49 Stat. 1556; P.L. 86-732; September 8, 1960; 74 Stat. 866; P.L. 90-578; October 17, 1968; 82 Stat. 1118; P.L. 91-135; December 5, 1969; 83 Stat. 282; P.L. 93-300; June 1, 1974; 88 Stat. 190; P.L. 95-616; November 8, 1978; 92 Stat. 3111; P.L. 99-645; November 10, 1986; 100 Stat. 3590 and P.L. 105-312; October 30, 1998; 112 Stat. 2956. The original 1918 statute implemented the 1916 Convention between the U.S. and Great Britain (for Canada) for the protection of migratory birds. Later amendments implemented treaties between the U. S. and Mexico, the U.S. and Japan, and the U.S. and the Soviet Union (now Russia).

7. The Safe Drinking Water Act, 42 U.S.C. 201, is designed to make the Nation's waters "drinkable" as well as "swimmable." Amendments in 1996 establish a direct connection between safe drinking water and watershed protection and management.
8. The Endangered Species Act (ESA) of 1973, as amended, 16 U.S.C. 1531 *et seq.*:
 - a. Provides a means whereby the ecosystems upon which endangered and threatened species depend may be conserved and to provide a program for the conservation of such endangered and threatened species (Sec. 1531 (b), Purposes).
 - b. Requires all federal agencies to seek to conserve endangered and threatened species and utilize applicable authorities in furtherance of the purposes of the ESA (Sec. 1531 (c) (1), Policy).
 - c. Requires all federal agencies to avoid jeopardizing the continued existence of any species that is listed or proposed for listing as threatened or endangered or destroying or adversely modifying its designated or proposed critical habitat (Sec. 1536 (a), Interagency Cooperation).
 - d. Requires all federal agencies to consult (or confer) in accordance with Sec. 7 of the ESA, with the Secretary of the Interior, through the Fish and Wildlife Service and/or the National Marine Fisheries Service, to ensure that any federal action (including land use plans) or activity is not likely to jeopardize the continued existence of any species listed or proposed to be listed under the provisions of the ESA, or result in the destruction or adverse modification of designated or proposed critical habitat (Sec. 1536 (a), Interagency Cooperation, and 50 CFR 402).
9. The Wild and Scenic Rivers Act, as amended, 16 U.S.C. 1271 *et seq.*, requires the federal land management agencies to identify potential river systems and then study them for potential designation as wild, scenic, or recreational rivers.
10. The Wilderness Act, as amended, 16 U.S.C. 1131 *et seq.*, authorizes the President to make recommendations to the Congress for federal lands to be set aside for preservation as wilderness.
11. The Antiquities Act of 1906, 16 U.S.C. 431-433, protects cultural resources on federal lands and authorizes the President to designate National Monuments on federal lands.
12. The National Historic Preservation Act (NHPA), as amended, 16 U.S.C. 470, expands protection of historic and archaeological properties to include those of national, state, and local significance and directs federal agencies to consider the effects of proposed actions on properties eligible for or included in the National Register of Historic Places.
13. The American Indian Religious Freedom Act of 1978, 42 U.S.C. 1996, establishes a national policy to protect and preserve the right of American Indians to exercise traditional Indian religious beliefs or practices.
14. The Recreation and Public Purposes Act of 1926, as amended, 43 U.S.C. 869 *et seq.*, authorizes the Secretary of the Interior to lease or convey BLM lands for recreational and public purposes under specified conditions.
15. The Federal Coal Leasing Amendments Act of 1976, 30 U.S.C. 201 (a)(3)(A)(i), requires that coal leases be issued in conformance with a comprehensive land use plan.
16. The Surface Mining Control and Reclamation Act of 1977, 30 U.S.C. 1201 *et seq.*, requires application of unsuitability criteria prior to coal leasing and also to proposed mining operations for minerals or mineral materials other than coal.
17. The Mineral Leasing Act of 1920, as amended, 30 U.S.C. 181 *et seq.*, authorizes the development and conservation of oil and gas resources.

18. The Onshore Oil and Gas Leasing Reform Act of 1987, 30 U.S.C. 181 *et seq.*, provides:
 - a. Potential oil and gas resources be adequately addressed in planning documents;
 - b. The social, economic, and environmental consequences of exploration and development of oil and gas resources be determined; and
 - c. Any stipulations to be applied to oil and gas leases be clearly identified.
19. The General Mining Law of 1872, as amended, 30 U.S.C. 21 *et seq.*, allows the location, use, and patenting of mining claims on sites on public domain lands of the United States.
20. The Mining and Mineral Policy Act of 1970, 30 U.S.C. 21a, establishes a policy of fostering development of economically stable mining and minerals industries, their orderly and economic development, and studying methods for disposal of waste and reclamation.
21. The Taylor Grazing Act of 1934, 43 U.S.C. 315, “[T]he Secretary of the Interior is authorized, in his discretion, by order to establish grazing districts or additions thereto...of vacant unappropriated and unreserved lands from any part of the public domain...which in his opinion are chiefly valuable for grazing and raising forage crops[.]...” The Act also provides for the classification of lands for particular uses.
22. The Public Rangelands Improvement Act of 1978, 43 U.S.C. 1901, provides that the public rangelands be managed so that they become as productive as feasible in accordance with management objectives and the land use planning process established pursuant to 43 U.S.C. 1712.
23. Executive Order 12898 (Federal Actions to Address Environmental Justice in Minority Populations and Low-Income Populations), 49 *Fed. Reg.* 7629 (1994), requires that each federal agency consider the impacts of its programs on minority populations and low income populations.
24. Executive Order 13007 (Indian Sacred Sites), 61 *Fed. Reg.* 26771 (1996), requires federal agencies to the extent practicable, permitted by law, and not clearly inconsistent with essential agency functions, to:
 - a. Accommodate access to and ceremonial use of Indian sacred sites by Indian religious practitioners; and
 - b. Avoid adversely affecting the physical integrity of such sacred sites.
25. Executive Order 13084 (consultation and Coordination with Indian Tribal Governments) provides, in part, that each federal agency shall establish regular and meaningful consultation and collaboration with Indian tribal governments in the development of regulatory practices on federal matters that significantly or uniquely affect their communities.
26. Executive Order 13112 (Invasive Species) provides that no federal agency shall authorize, fund, or carry out actions that it believes are likely to cause or promote the introduction or spread of invasive species unless, pursuant to guidelines that it has prescribed, the agency has determined and made public its determination that the benefits of such actions clearly outweigh the potential harm caused by invasive species; and that all feasible and prudent measures to minimize risk or harm will be taken in conjunction with the actions.
27. Executive Order 13186 of January 10, 2001 (responsibilities of federal agencies to protect Migratory Birds) 66 *Fed. Reg.* 3853 (2001), provides the furtherance of the purposes of the migratory bird conventions, the Migratory Bird Treaty Act (16 U.S.C. 703-711), the Bald and Golden Eagle Protection Acts (16 U.S.C. 668-668d), the Fish and Wildlife Coordination Act (16 U.S.C. 661-666c), the ESA of 1973 (16 U.S.C. 1531-1544), the National Environmental Policy Act of 1969 (42 U.S.C. 4321-4347), and other pertinent statutes.
28. Secretarial Order 3175 (incorporated into the Departmental manual at 512 DM 2) requires that if Department of the Interior (DOI) agency actions might impact Indian trust resources, the agency explicitly address those potential impacts in planning and decision documents, and the agency consult with the tribal government whose trust resources are potentially affected by the federal action.
29. Secretarial Order 3206 (American Indian Tribal Rights, Federal-Tribal Trust Responsibilities, and the ESA) requires DOI agencies to consult with Indian Tribes when agency actions to protect a listed species, as a result of compliance with ESA, affect or may affect of Indian lands, tribal trust resources, or the exercise of American Indian tribal rights.

An additional legal authority specific to the Andrews MU/Steens Mountain CMPA RMP/EIS is as follows:

30. The Steens Mountain Cooperative Management and Protection Act of 2000, P.L. 106-399, October 30, 2000, establishes the Steens Mountain Wilderness Area, the Steens Mountain Cooperative Management and Protection Area, the Redband Trout Reserve and the Wildland Juniper Management Area and designates additional components of the National Wild and Scenic Rivers System. This act requires the Burns BLM District to:
- maintain the cultural, economic, ecological, and social health of the Steens Mountain Area in Harney County, Oregon,
 - acquire private lands through exchange for inclusion in the Steens Mountain Wilderness and the Steens Mountain CMPA,
 - provide for and expand cooperative management activities between public and private landowners in the vicinity of the Steens Mountain Wilderness and surrounding lands,
 - authorize the purchase of land as well as development and non-development rights,
 - establish a citizens' management advisory council for the Steens Mountain CMPA,
 - maintain and enhance cooperative and innovative management practices between the public and private land managers in the Steens Mountain CMPA,
 - promote viable and sustainable grazing and recreation operations on private and public lands,
 - conserve, protect, and manage for healthy watersheds and long-term ecological integrity of Steens Mountain, and
 - authorize only such uses on federal lands in the Steens Mountain CMPA as are consistent with the purposes of the Act.

Planning Criteria

BLM planning regulations (43 Code of Federal Regulations 1610) require preparation of planning criteria for all RMPs. Planning criteria are the constraints or ground rules guiding and directing the development of the Plan. They determine how the planning team and the public approach the development of alternatives and ultimately the selection of a Preferred Alternative. Criteria ensure that plans are tailored to the identified issues, and that unnecessary data collection and analyses are avoided. Planning criteria are based on analyses of information pertinent to the Planning Area; professional judgment; standards prescribed by applicable laws, regulations, and agency guidance; and are the result of consultation and coordination with the public, other federal, state, and local agencies, and Indian tribes.

The preliminary criteria listed below were developed by the BLM and will be reviewed by the public before being used in the RMP process. The criteria will be included in a Federal Register Notice along with notification of public scoping meetings. After public input, criteria become proposed criteria and can be added to or changed as issues are addressed or new information is presented. The Burns District Manager will approve the issues, criteria, and any changes.

General Planning Criteria

The following general planning criteria will guide the preparation of the RMP/EIS and future land-use decisions.

- The RMP/EIS will be completed in compliance with FLPMA and all other applicable laws.
- The planning team will work cooperatively with the state, SMAC, RAC, tribal governments, county and municipal governments, other federal agencies, and all other interested groups, agencies, and individuals. Public participation will be encouraged throughout the process.
- The RMP/EIS will establish the guidance upon which the BLM will rely in managing the Planning Area.
- The planning process will include an EIS that complies with NEPA standards.
- The RMP/EIS will emphasize the protection and enhancement of the Planning Area's biodiversity while at the same time providing the public with opportunities for compatible commodity-based and recreation activities.
- The RMP/EIS will recognize valid existing rights within the Planning Area and review how such rights are verified. The Plan will outline the process used by the BLM to address applications or notices filed on existing claims or other land use authorizations after completion of the Plan.
- The lifestyles and concerns of area residents, including the activities of grazing, fishing, and hunting, will be recognized in the Plan.
- Any land within the Planning Area's administrative boundary and subsequently acquired by the BLM will be managed consistent with the Plan, subject to any constraints associated with the acquisition.
- The RMP/EIS will recognize the state's responsibility to manage wildlife. The BLM would consult with the ODFW before establishing no-hunting zones or periods for the purposes of protecting public safety,

administration, or public use and enjoyment. Methods of access and the manner in which wildlife management activities are to be conducted will be governed by the BLM, consistent with language in the Act.

- The RMP/EIS will address transportation and access, and will identify where better access is warranted, where it should remain as is, and where decreased access is appropriate to protect Planning Area resources and manage visitation.
- The management of grazing is regulated by laws and regulations. The RMP/EIS will incorporate the Rangeland Health Standards and Guidelines. It will define a strategy for ensuring that proper grazing practices are followed within the Planning Area.
- The planning process will involve American Indian tribal governments and will provide possible strategies to protect recognized traditional uses, if such uses are identified.
- Consistent with federal law and the Act, decisions in the RMP/EIS will strive to be compatible with existing plans and policies of adjacent local, state, federal, and tribal agencies.
- In addition to the general criteria listed above, specific criteria apply to the Steens Mountain CMPA.

The RMP/EIS will meet the following specific requirements of the Act:

- a. Protect the Steens Mountain CMPA's natural resources and outstanding recreation opportunities, while encouraging cooperative management;
- b. Describe appropriate uses and management of the Steens Mountain CMPA consistent with the Act;
- c. Incorporate, as appropriate, decisions contained in any current or future management or activity plan for the Steens Mountain CMPA; use information developed in previous studies of the land within or adjacent to the Steens Mountain CMPA;
- d. Coordinate with state, county, and private landowners and the Burns Paiute Tribe; and
- e. Determine measurable and achievable management objectives consistent with the Act to ensure the ecological integrity of the area.

Project Specific Criteria

In addition to the general planning criteria identified above, other specific planning criteria have been developed and apply to the RMP/EIS.

(1) Air Quality

Under the Clean Air Act, air quality of the Planning Area is designated as Class II. All land will be managed under Class II standards unless reclassified by the State of Oregon.

(2) Water Quality

The Federal Water Pollution Control Act of 1977 as amended (Clean Water Act) requires the BLM to be consistent with state nonpoint source management program plans and relevant water quality standards. Section 313 requires compliance with state water quality standards. The RMP/EIS will incorporate Best Management Practices (BMPs) or other conservation measures for specific programs and activities. Water quality will be maintained or improved in accordance with state and federal standards. In addition, Total Maximum Daily Loads (TMDLs) will be developed pursuant to the Clean Water Act that address water quality limited stream segments. The TMDLs are being developed cooperatively between the BLM and the ODEQ.

(3) Soil

Soil will be managed to protect long-term productivity. BMPs will be incorporated into other programs to minimize soil erosion and compaction resulting from management actions.

(4) Vegetation

Vegetation will be managed to provide for biological diversity at the landscape level, to protect and restore native perennial and desirable nonnative perennial species, and to provide for consumptive uses and non-consumptive values, including visual quality and watershed condition. Livestock forage allocations established in the Andrews MU grazing program EIS and subsequent agreements and decisions, will not be revised by this plan.

Grazing management adjustments will occur on a priority basis over the life of the plan through the adaptive management process and subsequent agreements, decisions, or activity plan revisions. Authorization of livestock use in the Planning Area will be subject to change through the life of the plan. The RMP/EIS will include provisions for plant maintenance, watershed protection and stability, wildlife habitat, as well as for livestock and wild horses. Fire and other treatment methods are considered tools to meet vegetation management objectives.

(5) Riparian Areas, Floodplains, and Wetlands

Riparian areas, floodplains, and wetlands will be managed to restore, protect or improve their natural functions relating to water storage, ground water recharge, water quality, and fish and wildlife values.

(6) Woodlands

All juniper and quaking aspen woodlands will be managed to protect long-term biological productivity and diversity and watershed values.

(7) Noxious Weed Control

The BLM will work with county, state, and federal agencies to monitor the locations and spread of noxious weeds. Noxious weed control will be conducted in accordance with the integrated weed management guidelines and design features identified in the Burns District Noxious Weed Management Program. The BLM will assess land prior to acquisition to determine if noxious weeds are present.

(8) Special Status Species

The BLM is mandated by law to assist in the conservation and recovery of species listed as Threatened or Endangered or proposed for listing under the ESA. Federal actions that may affect the well-being of these species require consultation with the USFWS. BLM policy requires that authorized actions do not contribute to the need to list any other special status species under the provisions of the ESA. The intent is to avoid the need for future listings of species as threatened or endangered.

(9) Wild Horses

Forage will be provided to support wild horse populations at levels established in accordance with the Wild Free-Roaming Horse and Burro Act. Adjustments in range allocation will be based on monitoring to ensure a thriving natural ecological balance within HMAs.

(10) Grazing Management

Grazing of public land will be authorized under the principles of multiple-use and sustained yield. Livestock will be managed to maintain or improve public land resources and rangeland productivity and to stabilize the livestock industry dependent on the public range over the long term. Forage will be allocated by allotment for livestock grazing on suitable rangeland based on multiple-use and sustained yield objectives. Existing management systems, including those outlined in AMPs, will continue until evaluations indicate that change is needed to meet objectives.

The process for determining livestock forage allocations through allotment evaluations will proceed in accordance with BLM regulations and policy.

(11) Fire Management

Wildland fire will be integrated into land and resource management planning to help achieve resource management objectives. The use of surface-disturbing equipment to suppress wildland fires will be restricted in Steens Mountain Wilderness, WSAs, and areas containing significant cultural or paleontological values, except when needed to protect human life or property. Public land affected by fire will be managed in accordance with multiple-use objectives.

(12) Land Tenure Adjustments

BLM administered land will be retained in public ownership unless disposal of a particular parcel will serve the public interest. Land may be identified for disposal by sale, exchange, state indemnity selection or other authorized methods. Land will be identified for acquisition based on public benefits, management considerations, and public access needs. Specific actions meeting land tenure adjustment criteria as established in the RMP/EIS will occur with public participation and will be made in consultation with local, county, state, and tribal governments.

(13) Rights-of-Way and Land Use Authorizations

Public land will generally be available for land use authorizations including transportation and utility ROWs with preference given to existing corridors. Exceptions will include areas specifically prohibited by law or regulation (e.g., wilderness) and specific areas identified to protect resource values.

(14) Energy and Minerals

Except where specifically withdrawn, public land will be available for energy and mineral exploration and development, subject to applicable federal and state laws and regulations.

(15) Recreation

All public land will be within Special Recreation Management Areas or Extensive Recreation Management Areas. Some areas may be subject to special measures to protect resources or reduce conflicts among uses. Where there is a demonstrated need, the BLM may develop and maintain recreation facilities including campgrounds, picnic areas, interpretive sites, boat access, and trails.

(16) Off Highway Vehicles

All public land will be designated as open, limited or closed for OHV use. Public safety, resource protection, user access needs, and conflict resolution will be considered in assigning these designations.

(17) Visual Resources

The BLM will manage public land to protect the quality of scenic (visual) values in accordance with established guidelines. All public land will be designated as VRM Class I, II, III or IV.

(18) Wild and Scenic Rivers

As required by law, streams will be evaluated for addition to WSRs. The evaluation will be conducted according to BLM Manual Section 8351 - Wild and Scenic Rivers - Policy and Program Direction for Identification, Evaluation and Management. Designated WSRs will be managed in accordance with laws and existing plans.

(19) Wilderness and Wilderness Study Areas

Wilderness will be managed according to the Wilderness Act and wilderness regulations. WSAs designated under authority of FLPMA, Sections 603 and 202, will be managed in accordance with the BLM IMP for lands under wilderness review. This planning effort will not reopen the initial wilderness review mandated by Section 603 of FLPMA, and it will not change existing decisions, signed by the Secretary of the Interior, to recommend areas as suitable for wilderness designation. New areas could be inventoried for wilderness characteristics during the planning process. Any new wilderness inventories and studies will be conducted under the authority of Sections 201 and 202 of FLPMA.

(20) Cultural and Paleontological Resources

Cultural and paleontological resources will be managed to maintain or enhance scientific, interpretive, and educational values. Cultural resources will be managed to protect American Indian interests where possible.

(21) Areas of Critical Environmental Concern

ACECs will be designated where special management attention is required to protect historical, cultural, or scenic values; natural resources or processes; or human life and safety. Management requirements for ACECs will be identified in the RMP/EIS.

Management Direction and Consistency with other Plans

This section describes the management direction found within the Andrews MFP and the following associated NEPA documents applicable to the Planning Area:

Animal Damage Control Final Environmental Impact Statement, 3 Volumes (APHIS 1994); Steens Mountain CMPA IMP Draft (BLM 2001b); Decision Record and Finding of No Significant Impact for the Projects for Implementation of the Steens Mountain Cooperative Management and Protection Act of 2000, EA-OR-027-01-27 (BLM 2001c); Three Rivers RMP, Record of Decision, and Rangeland Program Summary (BLM 1992a); Donner und Blitzen National Wild and Scenic River Management Plan Environmental Assessment (BLM 1993b); National Wild and Scenic River Donner und Blitzen Management Plan Environmental Assessment (BLM 1992b); Noxious Weed Management Project Environmental Assessment EA No. OR-020-98-05 (BLM 1998a); Decision Record and Finding of No Significant Impact for Steens Mountain Trail Maintenance (BLM 2001d); Pueblo-Lone Mountain Management Plan EA (BLM 1995b); Andrews Grazing Management Program EIS (BLM 1982); Burns District Environmental Assessment for Commercial Day-Use Activities OR-020-EA-99-24 (BLM 1999a); the Land Tenure Adjustment Plan Amendment for the Andrews and Drewsey MFPs (BLM 1988b); and The Riddle Brothers Ranch Historic District Cultural Resources Management Plan, Environmental Assessment (BLM 1994b).

Several activity level plans have also been completed in recent years as follows:

Steens Mountain Final Recreation Area Management Plan (BLM 1985); Andrews Rangeland Program Summary Update (BLM 1986); Pueblo-Lone Mountain Allotment Management Plan (BLM 1995c); Andrews Plan Amendment for Recreation Access Surrounding the Steens Mountain Loop Road (BLM 1993c); The Riddle Brothers Ranch Historic District Cultural Resources Management Plan (Crespin 1990); Kiger Mustang Area of Critical Environmental Concern Management Plan (BLM 1996a); Riddle Mountain and Kiger Wild Horse Herd Management Area Plan (BLM 1996b); SE Oregon Recreation Plan for Harney, Lake and Malheur Counties (Oregon Parks and Recreation Department 2000); Noxious Weed Policy and Classification System (Oregon Department of Agriculture 1997); Oregon's Bighorn Sheep Management Plan (ODFW 1992-1997); Oregon's Elk Management Plan (ODFW 1992); Mule Deer Plan (ODFW 1990); Oregon Cougar Management Plan Public Review Draft (ODFW 1993); Catlow Redband Trout and Catlow Tui Chub Conservation Agreement and Strategy (ODFW 1997); Oregon Outdoor Recreation Plan 1994-1999 (Oregon Parks and Recreation Department 1994); Oregon Wildlife Diversity Plan, 2nd edition (Puchy and Marshall 1993); Recovery Plan for the Pacific Bald Eagle (USFWS 1986); The Pacific Coast American Peregrine Falcon Recovery Plan (USFWS Pacific Coast American Peregrine Falcon Recovery Team 1982); and Recovery Plan for the Borax Lake Chub, *Gila boraxobius* (USFWS 1997).

Several BLM program documents or Inter-Agency plan/NEPA documents and decisions which also guide current management of lands within the Planning Area include the following:

Visual Resource Management Program (BLM 1980); 1613 - Areas of Critical Environmental Concern Resource Management Planning Guidance (BLM 1988a); Oregon Wilderness Final Environmental Impact Statement (BLM 1989a); Vegetation Treatment on BLM Lands in Thirteen Western States Final Environmental Impact Statement (BLM 1991a); Federal Land Policy and Management Act of 1976, as amended; Land Use Planning Handbook H-1601-1 Handbook (BLM Updated 2001e); National Management Strategy for Motorized Off-Highway Vehicle Use on Public Lands (BLM 2001f); Environmental Impact Statement, Volume III Appendices for all WSAs beginning with OR-2 plus OR-3-114 (BLM 1989b); National Environmental Policy Act Handbook H-1790-1 (BLM 1988c); Wilderness Management (BLM 2001g); Wilderness Management: Final Rule (BLM 2001h); Oregon Wilderness Environmental Impact Statement, Volume I-Statewide (BLM 1989c); Upper Columbia River Basin Draft Environmental Impact Statement, Volume 1 (BLM 1997b); Proposed Southeast Oregon Resource Management Plan and Final Environmental

Impact Statement, Volume 1 of 3 - Text (BLM 2000a); Rangeland Reform '94, Draft Environmental Impact Statement Executive Summary (BLM 1994c); Interior Columbia Basin Final Environmental Impact Statement (BLM 2000b); House Report 101-405 (Arizona Desert Wilderness Act of 1990); House Report 101-405 Appendix A, Grazing Guidelines (1990); Oregon Natural Heritage Plan (Oregon Natural Heritage Advisory Council 1998a); Reformatted Comprehensive Plan for the City of Burns, Oregon (1997); The National Environmental Policy Act of 1969, as amended; Oregon Wilderness Final Environmental Impact Statement (BLM 1989a); H-8550-1: IMP for lands under Wilderness Review (BLM 1995c); Wildland and Prescribed Fire Management Policy (National Park Service et al. 1998); Endangered and Threatened Wildlife and Plants: Animal Candidate Review for Listing as Endangered or Threatened Species, Proposed Rules (USFWS 1991); National Wildland Fire Policy (BLM 1998); and Greater Sage-Grouse and Sagebrush-Steppe Ecosystems Management Guidelines (BLM et al. 2000j).

This Page Intentionally Left Blank

Appendix E - Consistency with Oregon Statewide Plans

The RMP is consistent with the following Department of Land Conservation and Development planning goals and guidelines:

Goal 1: Citizen Involvement - To develop a citizen involvement program that insures the opportunity for citizens to be involved in all phases of the planning process.

Goal 2: Land Use Planning - To establish a land use planning process and policy framework as a basis for all decisions and actions related to use of land and to assure an adequate factual base for such decisions and actions.

Goal 3: Agricultural Lands - To preserve and maintain agricultural lands.

Goal 5: Open Spaces, Scenic and Historic Areas and Natural Resources - To protect natural resources and conserve scenic and historic areas and open spaces.

Goal 6: Air, Water, and Land Resources Quality - To maintain and improve the quality of the air water, and land resources for the state.

Goal 7: Areas Subject to Natural Disasters and Hazards - To protect life and property from natural disasters and hazards.

Goal 8: Recreational Needs - To satisfy the recreational needs of the citizens of the state and visitors and, where appropriate, to provide for the siting of necessary recreational facilities including destinations resorts.

Goal 9: Economy of the State - To provide adequate opportunities throughout the state for a variety of economic activities vital to the health, welfare, and prosperity of Oregon's citizens.

Goal 11: Public Facilities and Services - To plan and develop a timely, orderly, and efficient arrangement of public facilities and services to serve as a framework for urban and rural development.

Goal 12: Transportation - To provide and encourage a safe, convenient, and economical transportation system.

Goal 13: To Conserve Energy

Statewide Department of Land Conservation and Development goals which do not apply to the Planning Area or resource management opportunities include the following: Goal 4: Forest Lands; Goal 10: Housing; Goal 14: Urbanization; Goal 15: Willamette River Greenway; Goal 16: Estuarine Resources; Goal 17: Coastal Shorelands; Goal 18: Beaches and Dunes; and Goal 19: Ocean Resources.

The RMP is also consistent with the following Division of State Lands asset management prescriptions for state lands:

Rangelands will be managed to ensure forage yields for livestock grazing consistent with BMPs. Grazing levels may be adjusted, in consultation with lessees, on both trust and nontrust lands to protect rangeland health and the long-term value of the land.

Rangelands will be managed to prevent human-induced loss of rangeland health. Work with lessees to continue to implement rangeland practices that maintain, achieve or restore healthy functioning ecosystems and maintain, restore or enhance water quality.

Special interest lands will be managed primarily to ensure the protection of unique scenic, wildlife, cultural,

natural or recreation values. Revenue generation activities will generally be permitted only if they do not adversely impact these values.

Land owned by the land board will be open to mineral exploration and development subject to existing laws, regulations, and management plans. Land will be open to mineral activity unless the proposed use (1) would have significant adverse and nonmitigatable impacts on watershed integrity, and natural, cultural, and archeological features, (2) be located within a WSR, state scenic waterway, or similarly designated area, or (3) the proposal would not be permitted under the appropriate management plan.

Appendix F - Best Management Practices

Introduction

Best management practices (BMPs) are those land and resource management techniques designed to maximize beneficial results and minimize negative impacts of management actions. Interdisciplinary site-specific analysis is necessary to determine which management practices would be necessary to meet specific objectives and goals. BMPs described in this appendix are designed to assist in achieving the objectives for maintaining or improving water quality, soil productivity, and the protection of watershed resources. These guidelines will apply, where appropriate, to all use authorizations, including BLM-initiated projects. Modifications may be necessary on a site-specific basis to minimize the potential for negative impacts. Each of the following BMPs are a part of the coordinated development of the plan and may be updated as new information becomes available. Applicants can suggest alternate conditions that could accomplish the same result.

BMPs are selected and implemented as necessary, based on site-specific conditions, to meet water, soil, and watershed objectives for specific management actions. This document does not provide an exhaustive list of BMPs. Additional BMPs may be identified during an interdisciplinary process when evaluating site-specific management actions. Implementation and effectiveness of BMPs need to be monitored to determine whether the practices are achieving water, soil, and other watershed resource objectives and progressing toward desired goals. Adjustments will be made as necessary to ensure objectives are met and as needed to conform with changes in BLM regulations, policy, direction, or new scientific information.

These BMPs are a compilation of existing policies, guidelines, and commonly employed practices to minimize water quality degradation from nonpoint sources, to minimize the loss of soil productivity, to provide guidelines for aesthetic conditions within watersheds from surface disturbing activities, while facilitating multiple-use resource management.

BMPs are considered one of the primary mechanisms to achieve Oregon water quality standards and reduce impacts from nonpoint source pollution. Nonpoint sources of pollution result from natural causes, human actions, and the interactions between natural events and conditions associated with human use of the land and its resources. Nonpoint source pollution is caused by diffuse sources rather than from a discharge at a specific, single-source location. Such pollution results in alteration of the chemical, physical, and biological integrity of water.

BMPs are defined as methods, measures, or practices selected to meet nonpoint source control needs. BMPs include, but are not limited to, structural and nonstructural controls, operations, and maintenance procedures. BMPs can be applied before, during, and after pollution-producing activities to reduce or eliminate the introduction of pollutants into receiving waters (40 CFR 130.2(m), Environmental Protection Agency Water Quality Standards Regulation).

Because the control of nonpoint sources of pollution is an ongoing process, continual refinement of BMP design is necessary. This process can be described in five steps which are: 1) selection of design of a specific BMP; 2) application of the BMP; 3) monitoring; 4) evaluation; and 5) feedback. Data gathered through monitoring in BMP design, application, or in the monitoring program.

Road Design and Maintenance

1. Design roads to minimize total disturbance, to conform with topography, and to minimize disruption of natural drainage patterns.
2. Base road design criteria and standards on road management objectives such as traffic requirements of the proposed activity and the overall transportation plan, economic analysis, safety requirements, resource objectives, and minimizing damage to the environment.

3. Locate roads on stable terrain such as ridge tops, natural benches, and flatter transitional slopes near ridges and valley bottoms and moderate sideslopes and away from slumps, slide prone areas, concave slopes, clay beds, and where rock layers dip parallel to the slope. Locate roads on well-drained soil types; avoid wet areas.
4. Construct cut and fill slopes to be approximately 3(h):1(v) or flatter where feasible. Locate roads to minimize heights of cutbanks. Avoid high, steeply sloping cutbanks in highly fractured bedrock.
5. Avoid head walls, midslope locations on steep, unstable slopes, fragile soils, seeps, old landslides, sideslopes in excess of 70 percent, and areas where the geologic bedding planes or weathering surfaces are inclined with the slope. Implement extra mitigation measures when these areas can not be avoided.
6. Construct roads for surface drainage by using outslopes, crowns, grade changes, drain dips, waterbars and/or insloping to ditches as appropriate.
7. Sloping the road base to the outside edge for surface drainage is normally recommended for local spurs or minor collector roads where low volume traffic and lower traffic speeds are anticipated. This is also recommended in situations where long intervals between maintenance will occur and where minimum excavation is wanted. Out-sloping is not recommended on steep slopes. Sloping the road base to the inside edge is an acceptable practice on roads with steep sideslopes and where the underlying soil formation is very rocky and not subject to appreciable erosion or failure.
8. Crown and ditching is recommended for arterial and collector roads where traffic volume, speed, intensity and user comfort are considerations. Recommended gradients range from 0 to 15 percent where crown and ditching may be applied, as long as adequate drainage away from the road surface and ditch lines is maintained.
9. Minimize excavation, when constructing roads, through the use of balanced earthwork, narrowing road widths, and end hauling where sideslopes are between 50 and 70 percent.
10. If possible, construct roads when soils are dry and not frozen. When soils or road surfaces become saturated to a depth of three inches, BLM-authorized activities should be limited or ceased unless otherwise approved by the authorized officer.
11. Consider improving inadequately surfaced roads, that are to be left open to public traffic during wet weather with gravel or pavement to minimize sediment production and maximize safety.
12. Retain vegetation on cut slopes unless it poses a safety hazard or restricts maintenance activities. Roadside brushing of vegetation should be done in a way that prevents disturbance to root systems and visual intrusions (i.e., avoid using excavators for brushing).
13. Retain adequate vegetation between roads and streams to filter runoff caused by roads.
14. Avoid riparian/wetland areas where feasible; locate in these areas only if the roads do not interfere with the attainment of PFC and RMOs.
15. Minimize the number of unimproved stream crossings. When a culvert or bridge is not feasible, locate drive-through (low water crossings) on stable rock portions of the drainage channel. Harden crossings with the addition of rock and gravel if necessary. Use angular rock if available.
16. Locate roads and limit activities of mechanized equipment within stream channels to minimize their influence on riparian areas. When stream crossing is necessary, design the approach and crossing

- perpendicular to the channel where practical. Locate the crossing where the channel is well-defined, unobstructed, and straight.
17. Avoid placing fill material in floodplain unless the material is large enough to remain in place during flood events.
 18. Use drainage dips instead of culverts on roads where gradients would not present a safety issue. Locate drainage dips in such a way so water would not accumulate or where outside berms prevent drainage from the roadway. Locate and design drainage dips immediately upgrade of stream crossings and provide buffer areas and catchment basins to prevent sediment from entering the stream.
 19. Construct catchment basins, brush windrows, and culverts in a way to minimize sediment transport from road surfaces to stream channels. Install culverts in natural drainage channels in a way to conform with the natural streambed gradients with outlets that discharge onto rocky or hardened protected areas.
 20. Design and locate water crossing structures in natural drainage channels to accommodate adequate fish passage, provide for minimum impacts to water quality and capable of handling a 100-year event for runoff and floodwaters.
 21. Use culverts that pass, at a minimum, a 50-year storm event and/or have a minimum diameter of 24 inches for permanent stream crossings and a minimum diameter of 18 inches for road crossdrains.
 22. Replace undersized culverts and repair or replace damaged culverts and down spouts. Provide energy dissipators at culvert outlets or drainage dips.
 23. Locate culverts or drainage dips in such a manner as to avoid discharge onto unstable terrain such as head walls or slumps. Provide adequate spacing to avoid accumulation of water in ditches or road surfaces. Culverts should be placed on solid ground to avoid road failures.
 24. Proper sized aggregate and riprap should be used during culvert construction. Place riprap at culvert entrance to streamline water flow and reduce erosion.
 25. Establish adapted vegetation on all cuts and fill immediately following road construction and maintenance.
 26. Remove berms from the down slope side of roads, consistent with safety considerations.
 27. Leave abandoned roads in a condition that provides adequate drainage without further maintenance. Close abandoned roads to traffic. Physically obstruct the road with gates, large berms, trenches, logs, stumps, or rock boulders as necessary to accomplish permanent closure.
 28. Abandon and rehabilitate roads no longer needed. Leave these roads in a condition that provides adequate drainage. Remove culverts.
 29. When plowing snow for winter use of roads, provide breaks in snow berms to allow for road drainage. Avoid plowing snow into streams. Plow snow only on existing roads.
 30. Maintenance should be performed to conserve existing surface material, retain the original crowned or out-sloped self-draining cross section, prevent or remove rutting berms (except those designed for slope protection) and other irregularities that retard normal surface runoff. Avoid wasting loose ditch or surface material over the shoulder where it can cause stream sedimentation or weaken slump-prone areas. Avoid undercutting back slopes.

31. Do not disturb the toe of cut slopes while pulling ditches or grading roads. Avoid sidecasting road material into streams.
32. Grade roads only as necessary. Maintain drain dips, waterbars, road crown, in-sloping and out-sloping, as appropriate, during road maintenance.
33. Maintain roads in SMAs [Special Management Areas] according to SMA guidance. Generally, retain roads within existing disturbed areas and sidecast material away from the SMA.
34. When landslides occur, save all soil and material usable for reclamation or stockpile for future reclamation needs. Avoid side casting of slide material where it can damage, overload, and saturate embankments, or flow into down-slope drainage courses. Reestablish vegetation as needed in areas where vegetation has been destroyed due to side casting.
35. Strip and stockpile topsoil ahead of construction of new roads, if feasible. Reapply soil to cut and fill slopes prior to revegetation.

Surface-Disturbing Activities

1. Special design and reclamation measures may be required to protect scenic and natural landscape values. This may include transplanting trees and shrubs, mulching and fertilizing disturbed areas, use of low profile permanent facilities, and painting to minimize visual contrasts. Surface-disturbing activities may be moved to avoid sensitive areas or to reduce the visual effects of the proposal.
2. Above ground facilities requiring painting should be designed to blend in with the surrounding environment.
3. Disturbed areas should be contoured to blend with the natural topography. Blending is defined as reducing form, line, and color contrast associated with the surface disturbance. Disturbance in visually sensitive areas should be contoured to match the original topography, where matching is defined as reproducing the original topography and eliminating form, line, and color caused by the disturbance as much as possible.
4. Reclamation should be implemented concurrent with construction and site operations to the fullest extent possible. Final reclamation actions shall be initiated within six months of the termination of operations unless otherwise approved in writing by the authorized officer.
5. Fill material should be pushed into cut areas and up over back slopes. Depressions should not be left that would trap water or form ponds.

Rights-of-Way and Utility Corridors

1. Rights-of-way and utility corridors should use areas adjoining or adjacent to previously disturbed areas whenever possible, rather than traverse undisturbed communities.
2. Waterbars or dikes should be constructed on all of the rights-of-way and utility corridors, and across the full width of the disturbed areas, as directed by the authorized officer.
3. Disturbed areas within road rights-of-way and utility corridors should be stabilized by vegetation practices designed to hold soil in place and minimize erosion. Vegetation cover should be reestablished to increase infiltration and provide additional protection from erosion.

4. Sediment barriers should be constructed when needed to slow runoff, allow deposition of sediment, and prevent transport from the site. Straining or filtration mechanisms may also be employed for the removal of sediment from runoff.

Forest Management

1. Design harvest units and forest health treatments to blend with natural terrain.
2. Consider clearcutting only where it is siverculturally essential to accomplish site-specific objectives. Areas with fragile watershed conditions or high scenic values should not be clearcut.
3. When soils or road surfaces become saturated to a depth of three inches, BLM-authorized activities, such as log yarding and hauling, should be limited or cease unless otherwise approved by the authorized officer.
4. Scatter unmerchantable material (tops, limbs, etc.) in cutting units and treatment areas, consistent with fuel loading limitations.
5. Ground-yarding systems are not recommended on slopes that are of 30 percent or greater.
6. Utilize designated skid trails and haul roads, where feasible, when ground-yarding timber harvest operations.
7. Locate skid trails on upper slope positions, as far as possible from surface water. Avoid skidding across drainage bottoms or creating conditions that concentrate and channelize surface flow.
8. Use directional felling, when applicable, to minimize skidding distance and locate skid trails as far as possible from sensitive areas.
9. Install waterbars and apply native seed, when available, to skid trails and landings prior to temporary seasonal closures and following harvest operations. Consider ripping or subsoiling on skid trails and abandoned haul roads to reduce compaction where soil and slope conditions permit.
10. When ground- or cable-yarding, logs should be fully, or at least have the lead end, suspended.
11. Locate landings away from surface water. Design landings to minimize disturbance consistent with safety and efficiency of operation.
12. Use low pressure grapple equipment, if possible, when piling slash.
13. Conduct forested land treatments when soil surfaces are either frozen, dry, or have adequate snowpack to minimize impacts to soil and water resources.

Fire Suppression

1. Minimize surface disturbances and avoid the use of heavy earth-moving equipment where possible, on all fire suppression and rehabilitation activities, including mop-up, except where high value resources (including lives and property), are being protected.
2. Install waterbars and seed all constructed firelines with native or adapted nonnative species as appropriate.
3. Avoid dropping fire retardant detrimental to aquatic communities on streams, lakes, ponds, and in riparian/wetland areas.

4. The location and construction of handlines should result in minimal surface disturbance while effectively controlling the fire. Hand crews should locate lines to take full advantage of existing land features that represent natural fire barriers. Whenever possible, handlines should follow the contour of the slope to protect the soil, provide sufficient residual vegetation to capture and retain sediment, and maintain site productivity.
5. Suppression in riparian areas should be by hand crews when possible.

Prescribed Burning

1. To protect soil productivity, burning should be conducted, if possible, under conditions when a low-intensity burn can accomplish stated objectives. Burn only when conditions of organic surface or duff layer have adequate moisture to minimize effects to the physical and chemical properties of the soil. When possible, maximize the retention of the organic surface or duff layer.
2. Slash should not be piled and burned within riparian/wetland areas. If riparian/wetland areas are within or adjacent to the prescribed burn unit, piles should be firelined or scattered prior to burning.
3. When preparing the unit for burning, avoid piling concentrations of large logs and stumps; pile small material (three to eight inches in diameter). Slash piles should be burned when soil and duff moisture are adequate to reduce potential damage to soil resources.

Livestock Grazing Management

Grazing management projects and improvements are constructed as a portion of adaptive management to reduce resource management conflicts and to achieve multiple use management objectives. Rangeland improvements may include, but are not limited to the following examples:

- Water developments (i.e., spring developments, pipelines/troughs and reservoirs) to facilitate upland distribution and reduce concentration in riparian-wetland areas of livestock, wildlife and wild horses.
- Hardened crossings and water access points, or water gaps to direct livestock use to specific watering locations and reduce use over larger riparian-wetland areas.
- Placement of salt and/or other supplements to distribute livestock throughout uplands and away from riparian areas.
- Riding and herding livestock to control use in sensitive areas.
- Planting desirable forage species in uplands to attract livestock away from riparian or other sensitive areas.
- Fencing to delineate pastures associated to area-specific management objective(s), or to establish permanent, temporary or seasonal exclusion from specific areas.
- Barriers (i.e., trees, brush, boulder, gap fences) to reduce access or avoid specific areas.

Grazing schedules are developed and adjusted through the adaptive management process on an allotment-specific basis. This is to mitigate impacts to resource values and progress towards multiple use management objectives and sustainability of desirable values. Appendix O provides further details on intensity and season of use.

Mining

1. Reclaim all disturbed surface areas promptly, performing concurrent reclamation as necessary, and minimize the total amount of all surface disturbance.

2. All surface soil should be stripped prior to conducting operations, stockpiled, and reapplied during reclamation, regardless of soil quality. Minimize the length of time soil remains in stockpiles and the depth or thickness of stockpiles. When slopes on topsoil exceed five percent, a berm or trench should be constructed below the stockpile to prevent sediment transport offsite.
3. Strip and separate soil surface horizons where feasible and reapply in proper sequence during reclamation.
4. Locate soil stockpiles and waste rock disposal areas away from surface water to minimize offsite drainage effects.
5. Establish vegetation cover on soil stockpiles that are to be in place longer than one year.
6. Construct and rehabilitate temporary roads to minimize total surface disturbance, consistent with intended use.
7. Consider temporary measures such as silt fences, straw bales, or mulching to trap sediment in sensitive areas until reclaimed areas are stabilized with vegetation.
8. Reshape to the approximate original contour all areas to be permanently reclaimed, providing for proper surface drainage.
9. Leave reclaimed surfaces in a roughened condition following soil application.
10. Complete reclamation and seeding during the fall if possible.

Noxious Weed Management

1. All contractors and land-use operators moving surface-disturbing equipment in or out of weed-infested areas should clean their equipment before and after use on public land.
2. Control all weeds annually in areas frequently disturbed such as gravel pits, recreation sites, road sides, livestock concentration areas.
3. Consider livestock quarantine, removal, or timing limitations in weed-infested areas.
4. All seed, hay, straw, mulch, or other vegetation material transported and used on public land weed-free zones for site stability, rehabilitation, or project facilitation should be certified by a qualified Federal, state or county officer as free of noxious weeds and noxious weed seed. All baled feed, pelletized feed, and grain transported into weed-free zones and used to feed livestock should also be certified as free of noxious weed seed.
5. It is recommended that all vehicles, including off-road and all-terrain, traveling in or out of weed-infested areas should clean their equipment before and after use on public land.

Developed Recreation

1. Construct recreation sites and provide appropriate sanitation facilities to minimize impacts to resource values, public health and safety, and minimize user conflicts of approved activities and access within an area as appropriate.
2. Minimize impacts to resource values or to enhance a recreational setting and recreation experience. Harden site and locations subject to prolonged/repetitive concentrated recreational uses with selective placement of gravel or other porous materials and allow for dust abatement, paving, and engineered road construction.
3. Use public education and/or physical barriers (such as rocks, posts, vegetation) to direct or precluded uses and to minimize impacts to resource values and the quality of recreation experience.
4. As appropriate, employ limitations of specific activities to avoid or correct adverse impacts to resource values, public safety issues, and/or conflicts between recreational uses.
5. Employ land use ethics programs and techniques such as "Leave No Trace" and "Tread Lightly." Use outreach efforts of such programs to lessen needs to implement more stringent regulatory measures to obtain resource protection and a quality recreation experience.

Appendix G - Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands in Oregon and Washington

Introduction

These Standards for Rangeland Health and Guidelines for Livestock Grazing Management for Public Lands in Oregon and Washington were developed in consultation with resource advisory councils and provincial advisory committees, tribes, and others. These standards and guidelines meet the requirements and intent of 43 Code of Federal Regulations, Subpart 4180 (Rangeland Health) and are to be used as presented, in their entirety. These standards and guidelines are intended to provide a clear statement of agency policy and direction for those who use public land for livestock grazing, and for those who are responsible for their management and accountable for their condition. Nothing in this document should be interpreted as an abrogation of Federal trust responsibilities in protection of treaty rights of Indian tribes or any other statutory responsibilities including, but not limited to, the Taylor Grazing Act, Clean Water Act, and Endangered Species Act.

Fundamentals of Rangeland Health

The objectives of the rangeland health regulations referred to above are: “to promote healthy sustainable rangeland ecosystems; to accelerate restoration and improvement of public rangelands to properly functioning conditions ... and to provide for the sustainability of the western livestock industry and communities that are dependent upon productive, healthy public rangelands.”

To help meet these objectives, the regulations on rangeland health identify fundamental principles providing direction to the states, districts, and on-the-ground public land managers and users in the management use of rangeland ecosystems.

A hierarchy, or order, of ecological function and process exists within each ecosystem. The rangeland ecosystem consists of four primary, interactive components; a physical component, a biological component, a social component, and an economic component. This perspective implies that the physical function of an ecosystem supports the biological health, diversity and productivity of that system. In turn, the interaction of the physical and biological components of the ecosystem provides the basic needs of society and supports economic use and potential.

The fundamentals of rangeland health stated in 43 CFR 4180 are:

1. Watersheds are in, or are making significant progress toward, properly functioning physical condition, including their upland, riparian-wetland, and aquatic components; soil and plant conditions support infiltration, soil moisture storage and the release of water that are in balance with climate and landform and maintain or improve water quality and the timing and duration of flow.
2. Ecological processes, including the hydrologic cycle, nutrient cycle and energy flow, are maintained, or there is significant progress toward their attainment, in order to support healthy biotic populations and communities.
3. Water quality complies with State water quality standards and achieves, or is making significant progress toward achieving, established BLM objectives such as meeting wildlife needs.
4. Habitats are, or are making significant progress toward being, restored or maintained for Federal threatened and endangered species, Federal proposed, Category 1 and 2 Federal candidate and other Special Status species.

The fundamentals of rangeland health combine the basic precepts of physical function and biological health elements of law relating to water quality, and plant and animal populations and communities. They provide direction in the development and implementation of the standards for rangeland health.

Standards for Rangeland Health

The standards for rangeland health (standards), based on the above fundamentals, are expressions of the physical and biological condition or degree of function necessary to sustain healthy rangeland ecosystems. Although the focus of these

standards is on domestic livestock grazing on BLM-administered land, on-the-ground decisions must consider the effects and impacts of all issues.

Standards that address the physical components of rangeland ecosystems focus on the roles and interactions of geology and landform, soil, climate, and water as they govern watershed function and soil stability. The biological components addressed in the standards focus on the roles and interactions of plants, animals, and microbes (producers, consumers, and decomposers), and their habitats in the ecosystem. The biological component of rangeland ecosystems is supported by the physical function of the system, and it is recognized that biological activity also influences and supports many of the ecosystem's physical functions.

Guidance contained in 43 CFR 4180 of the regulations directs management toward the maintenance or restoration of the physical function and biological health of rangeland ecosystems. Focusing on the basic ecological health and function of rangelands is expected to provide for the maintenance, enhancement, or creation of future social and economic options.

The standards are based on the ecological potential and capability of each site. In assessing a site's condition or degree of function, it must be understood that the evaluation compares each site to its own potential or capability. Potential and capability are defined as follows:

Potential - The highest level of condition or degree of function a site can attain given no political, social, or economic constraints.

Capability - The highest level of condition or degree of function a site can attain given certain political, social, or economic constraints. For example, these constraints might include riparian areas permanently occupied by a highway or railroad bed that prevent the stream's full access to its original floodplain. If such constraints are removed, the site may be able to move toward its potential.

In designing and implementing management strategies to meet the standards of rangeland health, the potential of the site must be identified, and any constraints recognized, in order that plan goals and objectives are realistic and physically and economically achievable.

Standards and Guidelines in Relation to the Planning Process

The standards apply to the goals of land use plans, activity plans, and project plans (Allotment Management Plans (AMPs)), annual operating plans, habitat management plans, etc.). They establish the physical and biological conditions or degree of function toward which management of publicly-owned rangeland is to be directed. In the development of a plan, direction provided by the standards and the social and economic needs expressed by local communities and individuals are brought together in formulating the goal(s) of that plan.

When the standards and the social and economic goals of the planning participants are woven together in the plan goal(s), the quantifiable, time-specific objective(s) of the plan are then developed. Objectives describe and quantify the desired future conditions to be achieved within a specified timeframe. Each plan objective should address the physical, biological, social, and economic elements identified in the plan goal.

Standards apply to all ecological sites and landforms on public rangelands throughout Oregon and Washington. The standards require site-specific information for full on-the-ground usability. For each standard, a set of indicators is identified for use in tailoring the standards to site-specific situations. These indicators are used for rangeland ecosystem assessments and monitoring, and for developing terms and conditions for permits and leases that achieve the plan goal.

Guidelines for livestock grazing management offer guidance in achieving the plan goal and objectives. The guidelines outline practices, methods, techniques, and considerations used to ensure that progress is achieved in a way, and at a rate, that meets the plan goal and objectives.

Indicators of Rangeland Health

The condition or degree of function of a site, in relation to the standards and its trend toward or away from any standard, is determined through the use of reliable and scientifically sound indicators. The consistent application of such indicators can provide an objective view of the condition and trend of a site when used by trained observers.

For example, the amount and distribution of ground cover can be used to indicate that infiltration at the soil surface can take place as described in the standard relating to upland watershed function. In applying this indicator, the specific levels of plant cover necessary to support infiltration in a particular soil should be identified using currently available information from reference areas, if they exist; from technical sources like soil survey reports, ecological site inventories, and ecological site descriptions, or from other existing reference materials. Reference areas are land that best represent the potential of a specific ecological site in both physical function and biological health. In many instances, potential reference areas are identified in ecological site descriptions and are referred to a "type location." In the absence of suitable reference areas, the selection of indicators to be used in measuring or judging condition or function should be made by an interdisciplinary team of experienced professionals and other trained individuals.

Not all indicators identified for each standard are expected to be employed in every situation. Criteria for selecting appropriate indicators and methods of measurement and observation include, but are not limited to, 1) the relationship between the attribute(s) being measured or observed and the desired outcome; 2) the relationship between the activity (e.g., livestock grazing) and the attribute(s) being measured or observed, and 3) funds and workforce available to conduct the measurements or observations.

Assessment and Monitoring

The standards are the basis for assessing and monitoring rangeland condition and trend. Carrying out well-designed assessment and monitoring is critical to restoring or maintaining healthy rangelands and determining trends and conditions.

Assessments are a cursory form of evaluation based on the standards that can be used at different landscape scales. Assessments, conducted by qualified interdisciplinary teams (which may include, but are not limited to, physical, biological, and social specialists and interagency personnel) with participation from permittees and other interested parties, are appropriate at the watershed and subwatershed level, at the allotment and pasture levels, and on individual ecological sites or groups of sites. Assessments identify the condition or degree of function within the rangeland ecosystem and indicate resource problems and issues that should be monitored or studied in more detail. The results of the assessments are a valuable tool for managers in assigning priorities within an administrative area and the subsequent allocation of personnel, money, and time in resource monitoring and treatment. The results of assessments may also be used in making management decisions where an obvious problem exists.

Monitoring, which is the well-documented and orderly collection, analysis, and interpretation of resource data, serves as the basis for determining trends in the condition or degree of function of rangeland resources and for making management decisions. Monitoring should be designed and carried out to identify trends in resource conditions, to point out resource problems, to help indicate the cause of such problems, to point out solutions, and/or to contribute to adaptive management decisions. In cases where monitoring data do not exist, professional judgement, supported by interdisciplinary team recommendation, may be relied upon by the authorized officer in order to take necessary action. Review and evaluation of new information must be an ongoing activity.

To be effective, monitoring must be consistent over time, throughout administrative areas, and in the methods of measurement and observation of selected indicators. Those doing the monitoring must have the knowledge and skill required by the level or intensity of the monitoring being done, as well as the experience to properly interpret the results. Technical support for training must be made available.

Measurability

It is recognized that not every area will immediately meet the standards and that it will sometimes be a long-term process to restore some rangelands to properly functioning condition. It is intended that in cases where standards are not being met, measurable progress should be made toward achieving those standards, and significant progress should be made toward fulfilling the fundamentals of rangeland health. Measurability is defined on a case-specific basis based upon the stated planning objectives (e.g., quantifiable, time-specific), taking into account economic and social goals along with

the biological and ecological capability of the area. To the extent that a rate of recovery conforms with the planning objectives, the area is allowed the time to meet the standard under the selected management regime.

Implementation

The material contained in this document will be incorporated into existing land use plans and used in the development of new land use plans. According to 43 CFR 4130.3-1, permits and leases shall incorporate terms and conditions that ensure conformance with 43 CFR 4180. Terms and conditions of existing permits and leases will be modified to reflect standards and guidelines at the earliest possible date, with priority for modification being at the discretion of the authorized officer. Terms and conditions of new permits and leases will reflect standards and guidelines in their development.

Indicators identified in this document will serve as a focus of interpretation of existing monitoring data and will provide the basis of design for monitoring and assessment techniques, and in the development of monitoring and assessment plans.

The authorized officer shall take appropriate action as soon as practicable, but not later than the start of the next grazing year, upon determining through assessment or monitoring by experienced professionals and interdisciplinary teams that a standard is not being achieved and that livestock are a significant contributing factor to the failure to achieve the standards and conform with the guidelines.

Standards for Rangeland Health

Standard 1: Watershed Function - Uplands

Upland soils exhibit infiltration and permeability rates, moisture storage, and stability that are appropriate to soil, climate, and landform.

Rationale and Intent:

This standard focuses on the basic physical functions of upland soils that support plant growth, the maintenance or development of plant populations and communities, and promote dependable flows of quality water from the watershed.

To achieve and sustain rangeland health, watersheds must function properly. Watersheds consist of three principle components; the uplands, riparia/wetland areas, and the aquatic zone. This standard addresses the upland component of the watershed. When functioning properly, within its potential, a watershed captures, stores, and safely releases the moisture associated with normal precipitation events (equal to or less than the 25-year, 5-hour event) that falls within its boundaries. Uplands make up the largest part of the watershed and are where most of the moisture is received during precipitation events is captured and stored.

While all watersheds consist of similar components and processes, each is unique in its individual makeup. Each watershed displays its own pattern of landform and soil, its unique climate and weather patterns, and its own history of use and current condition. In directing management toward achieving this standard, it is essential to treat each unit of the landscape (soil, ecological site, and watershed) according to its own capability and how it fits with both smaller and larger units of the landscape.

A set of potential indicators has been identified for which site-specific criteria will be used to determine if this standard is being met. The appropriate indicators to be used in determining attainment of the standard should be drawn from the following list.

Potential Indicators:

Protection of the soil surface from raindrop impact; detention of overland flow; maintenance of infiltration and permeability, and protection of the soil surface from erosion, consistent with the potential/capability of the site, as evidenced by the:

- amount and distribution of plant cover (including forest canopy cover);
- amount and distribution of plant litter;
- accumulation/incorporation of organic matter;
- amount and distribution of bare ground;
- amount and distribution of rock, stone, and gravel;
- plant composition and community structure;
- thickness and continuity of the “A” horizon;
- character of microrelief;
- presence and integrity of biotic crusts;
- root occupancy of the soil profile;
- biological activity (plant, animal, and insect); and
- absence of accelerated erosion and overland flow.

Soil and plant conditions promote moisture storage as evidenced by:

- amount and distribution of plant cover (including canopy cover);
- amount and distribution of plant litter;
- plant composition and community structure; and
- accumulation/incorporation of organic matter.

Standard 2: Watershed Function - Riparian/Wetland Areas

Riparian/wetland areas are in properly functioning physical condition appropriate to soil, climate and landform.

Rational and Intent:

Riparian/wetland areas are grouped into two major categories: 1) lentic, or standing water systems such as lakes, ponds, seeps, bogs, and meadows; and 2) lotic, or moving water systems such as rivers, streams, and springs. Wetlands are areas that are inundated or saturated by surface or ground water at a frequency and duration to support, and which under normal circumstances do support, a prevalence of vegetation typically adapted to life in saturated soil conditions. Riparian areas commonly occupy the transition zone between the upland and surface water bodies (the aquatic zone) or permanently saturated wetlands.

Properly functioning condition of riparian and wetland areas describes the degree of physical function of these components of the watershed. Their functionality is important to water quality in the capture and retention of sediment and debris, the detention and detoxification of pollutants, and in moderating seasonal extremes of water temperature. Properly functioning riparian areas and wetlands enhance the timing and duration of streamflow through dissipation of flood energy, improved bank storage, and ground water recharge. Properly functioning condition should not be confused with the desired plant community or the desired future condition since, in most cases, it is the precursor to these levels of resource condition and is required for their attainment.

A set of indicators has been identified for which site-specific criteria will be used to determine if this standard is being met. The criteria are based upon the potential (or upon the capability where potential cannot be achieved) of individual sites or landforms.

Potential Indicators:

Hydrologic, vegetation, and erosional/depositional processes interact in supporting physical function, consistent with the potential or capability of the site, as evidenced by:

- frequency of floodplain/wetland inundation;
- plant composition, age class distribution, and community structure;
- root mass;
- point bars revegetating;
- streambank/shoreline stability;
- riparian area width;
- sediment deposition;
- active/stable beaver dams;
- coarse/large woody debris;
- upland watershed conditions;
- water table fluctuation.

Stream channel characteristics are appropriate for landscape position as evidenced by:

- channel width/depth ratio;
- channel sinuosity;
- gradient;
- rocks and coarse and/or large woody debris;
- overhanging banks;
- pool/riffle ratio;
- pool size and frequency; and
- stream embeddedness.

Standard 3: Ecological Processes

Healthy, productive, and diverse plant and animal populations and communities appropriate to soil, climate, and landform are supported by ecological processes of nutrient cycling, energy flow, and the hydrologic cycle.

Rationale and Intent:

This standard addresses the ecological processes of energy flow and nutrient cycling as influenced by existing and desired plant and animal communities without establishing the kinds, amounts, or proportions of plant and animal community compositions. While emphasis may be on native species, an ecological site may be capable of supporting a number of different native and introduced plant and animal populations and communities while meeting this standard. This standard also addresses the hydrologic cycle which is essential for plant growth and appropriate levels of energy flow and nutrient cycling. Standards 1 and 2 address the watershed aspects of the hydrologic cycle.

With a few exceptions, all life on earth is supported by the energy supplied by the sun and captured by plants in the process of photosynthesis. This energy enters the food chain when plants are consumed by insects and herbivores and passes upward through the food chain to the carnivores. Eventually, the energy reaches the decomposers and is released as the thermal output of decomposition or through oxidation.

The ability of plants to capture sunlight energy, to grow and develop, to play a role in soil development and watershed function, to provide habitat for wildlife, and to support economic uses depends on the availability of nutrients and moisture. Nutrients necessary for plant growth are made available to plants through the decomposition and metabolization of organic matter by insects, bacteria and fungi, the weathering of rocks, and extraction from the atmosphere. Nutrients are transported through the soil by plant uptake, leaching, and by rodent, insect, and microbial activity. They follow cyclical patterns as they are used and reused by living organisms.

The ability of rangelands to supply resources and satisfy social and economic needs depends on the buildup and cycling of nutrients over time. Interrupting or slowing nutrient cycling can lead to site degradation, as this land becomes increasingly deficient in the nutrients plants require.

Some plant communities, because of past use, frequent fire or other histories of extreme or continued disturbance, are incapable of meeting this standard. For example, shallow-rooted winter-annual grasses that completely dominate some sites do not fully occupy the potential rooting depth of some soils, thereby reducing nutrient cycling well below optimum levels. In addition, these plants have a relatively short growth period and thus capture less sunlight than more diverse plant communities. Plant communities like those cited in this example are considered to have crossed the threshold of recovery and often require great expense to be recovered. The cost of recovery must be weighed against the site's potential ecological/economic value in establishing treatment priorities.

The role of indicators has been identified for which site-specific criteria will be used to determine if this standard is being met.

Potential Indicators:

Photosynthesis is effectively occurring throughout the potential growing season, consistent with the potential/capability of the site, as evidenced by plant composition and community structure.

Nutrient cycling is occurring effectively, consistent with the potential/capability of the site, as evidenced by:

- plant composition and community structure;
- accumulation, distribution, incorporation of plant litter and organic matter into the soil;
- animal community structure and composition;
- root occupancy in the soil profile; and
- biological activity including plant growth, herbivory, and rodent, insect, and microbial activity.

Standard 4: Water Quality

Surface water and ground water quality, influenced by agency actions, complies with State water quality standards.

Rationale and Intent:

The quality of the water yielded by a watershed is determined by the physical and chemical properties of the geology and soils unique to the watershed, the prevailing climate and weather patterns, current resource conditions, the uses to which the land is put, and the quality of the management of the uses. Standards 1, 2, and 3 contribute to attaining this standard.

States are legally required to establish water quality standards and Federal land management agencies are to comply with those standards. In mixed ownership watersheds, agencies, like any other landowners, have limited influence on the quality of the water yielded by the watershed. The actions taken by the agency will contribute to meeting State water quality standards during the period that water crosses agency administered holdings.

Potential Indicators:

Water quality meets applicable water quality standards as evidenced by:

- water temperature;
- dissolved oxygen;
- fecal coliform;
- turbidity;
- pH;
- populations of aquatic organisms; and
- effects on beneficial uses (e.g., effects on management activities on beneficial uses as defined under the Clean Water Act and State implementing regulations).

Standard 5: Native, Threatened and Endangered, and Locally Important Species

Habitats support healthy, productive, and diverse populations and communities of native plants and animals (including Special Status species and species of local importance) appropriate to soil, climate, and landform.

Rationale and Intent:

Federal agencies are mandated to protect threatened and endangered species and will take appropriate action to avoid the listing of any species. This standard focuses on retaining and restoring native plant and animal (including fish) species, populations, and communities (including threatened, endangered and other Special Status species and species of local importance). In meeting the standard, native plant communities and animal habitats would be spatially distributed across the landscape with a density and frequency of species suitable to ensure reproductive capability and sustainability. Plant populations and communities would exhibit a range of age classes necessary to sustain recruitment and mortality fluctuations.

Potential Indicators:

Essential habitat elements for species, populations, and communities are present and available, consistent with the potential/capability of the landscape, as evidenced by:

- plant community composition, age class distribution, productivity;
- animal community composition, productivity;
- habitat elements;
- spatial distribution of habitat;
- habitat connectivity; and
- population stability/resilience.

Guidelines for Livestock Grazing Management

Guidelines for livestock grazing management offer guidance in achieving plan goals, meeting standards for rangeland health, and fulfilling the fundamentals of rangeland health. Guidelines are applied in accordance with the capabilities of the resource in consultation, cooperation, and coordination with permittees/lessees and the interested public. Guidelines enable managers to adjust grazing management on public land to meet current and anticipated climatic and biological conditions.

General Guidelines

1. Involve diverse interests in rangeland assessment, planning, and monitoring.
2. Assessment and monitoring are essential to the management of rangelands, especially in areas where resource problems exist or issues arise. Monitoring should proceed using a qualitative method of assessment to identify critical, site-specific problems or issues using interdisciplinary teams of specialists, managers, and knowledgeable land users.

Once identified, critical, site-specific problems or issues should be targeted for more intensive, quantitative monitoring or investigation. Priority for monitoring and treatment should be given to those areas that are ecologically at-risk where benefits can be maximized given existing budgets and other resources.

Livestock Grazing Management

1. The season, timing, frequency, duration, and intensity of livestock grazing use should be based on the physical and biological characteristics of the site and the management unit in order to:
 - a. Provide adequate cover (live plants, plant litter, and residue) to promote infiltration, conserve soil moisture, and to maintain soil stability in upland areas;
 - b. Provide adequate cover and plant community structure to promote streambank stability, debris and sediment capture, and floodwater energy dissipation in riparian areas;
 - c. Promote soil surface conditions that support infiltration;
 - d. Avoid subsurface soil compaction that retards the movement of water into the soil profile;
 - e. Help prevent the increase and spread of noxious weeds;
 - f. Maintain or restore diverse plant populations and communities that fully occupy the potential rooting volume of the soil;
 - g. Maintain or restore plant communities to promote photosynthesis throughout the potential growing season;
 - h. Promote soil and site conditions that provide the opportunity for the establishment of desirable plants;
 - i. Protect or restore water quality; and
 - j. Provide for the life cycle requirements, and maintain or restore the habitat elements of native (including threatened and endangered, Special Status, and locally important species) and desired plants and animals.
2. Grazing management plans should be tailored to site-specific conditions and plan objectives. Livestock grazing should be coordinated with the timing of precipitation, plant growth, and plant form. Soil moisture, plant growth stage, and the timing of peak streamflows are key factors in determining when to graze. Response to different grazing strategies varies with differing ecological sites.
3. Grazing management systems should consider nutritional and herd health requirements of the livestock.

4. Integrate grazing management systems into the year-round management strategy and resources of the permittee(s) or lessee(s). Consider the use of collaborative approaches (e.g., coordinated resource management, work groups) in this integration.
5. Consider competition for forage and browse among livestock, big game animals, and wild horses in designing and implementing a grazing plan.
6. Provide periodic rest from grazing for rangeland vegetation during critical growth periods to promote plant vigor, reproduction, and productivity.
7. Range improvement practices should be prioritized to promote rehabilitation and resolve grazing concerns on transitory grazing land.
8. Consider the potential for conflict between grazing use on public land and adjoining land uses in the design and implementation of a grazing management plan.

Facilitating the Management of Livestock Grazing

1. The use of practices to facilitate the implementation of grazing systems should consider the kind and class of animals managed, indigenous wildlife, wild horses, the terrain, and the availability of water. Practices such as fencing, herding, water development, and the placement of salt and supplements (where authorized) are used where appropriate to:
 - a. Promote livestock distribution;
 - b. Encourage a uniform level of proper grazing use throughout the grazing unit;
 - c. Avoid unwanted or damaging concentrations of livestock on streambanks, in riparian areas, and other sensitive areas such as highly erodible soils, unique wildlife habitats, and plant communities; and
 - d. Protect water quality.
2. Roads and trails used to facilitate livestock grazing are constructed and maintained in a manner that minimizes the effects on landscape hydrology; concentration of overland flow, erosion, and sediment transport are prevented; and subsurface flows are retained.

Accelerating Rangeland Recovery

1. Upland treatments that alter the vegetation composition of a site, such as prescribed burning, juniper management, and seedings or plantings must be based on the potential of the site and should:
 - a. Retain or promote infiltration, permeability, and soil moisture storage;
 - b. Contribute to nutrient cycling and energy flow;
 - c. Protect water quality;
 - d. Help prevent the increase and spread of noxious weeds;
 - e. Contribute to the diversity of plant communities, and plant community composition and structure;
 - f. Support the conservation of threatened and endangered, other Special Status species, and species of local importance; and
 - g. Be followed up with grazing management and other treatments that extend the life of the treatment and address the cause of the original treatment need.

2. Seedlings and plantings of nonnative vegetation should only be used in those cases where native species are not available in sufficient quantities; where native species are incapable of maintaining or achieving the standards; or where nonnative species are essential to the functional integrity of the site.
3. Structural and vegetation treatments and animal introductions in riparian and wetland areas must be compatible with the capability of the site, including the system's hydrologic regime, and contribute to the maintenance or restoration of properly functioning condition.

Rangelands Glossary

Appropriate action - implementing actions pursuant to subparts 4110, 4120, 4130, and 4160 of the regulations that will result in significant progress toward fulfillment of the standards and significant progress toward conformance with the guidelines. (See Significant progress")

Assessment - a form of evaluation based on the standards of rangeland health, conducted by an interdisciplinary team at the appropriate landscape scale (pasture, allotment, subwatershed, watershed, etc.) to determine conditions relative to standards.

Compaction layer - a layer within the soil profile in which the soil particles have been rearranged to decrease void space, thereby increasing soil bulk density and often reducing permeability.

Crust, Abiotic - (physical crust) a surface layer on soils, ranging in thickness from a few millimeters to a few centimeters, that is much more compact, hard, and brittle when dry, than the material immediately beneath it.

Crust, Biotic - (microbiotic or cryptogamic crust) a layer of living organisms (mosses, lichens, liverworts, algae, fungi, bacteria, and/or cyanobacteria) occurring on, or near the soil surface.

Degree of function - a level of physical function relative to properly functioning condition commonly expressed as: properly functioning, functioning-at-risk, or nonfunctional.

Diversity - the aggregate of species assemblages (communities), individual species, and the genetic variation within species and the processes by which these components interact within and among themselves. The elements of diversity are: 1) community diversity (habitat, ecosystem); 2) species diversity; and 3) genetic diversity within a species; all three of which change over time.

Energy flow - the processes in which solar energy is converted to chemical energy through photosynthesis and passed through the food chain until it is eventually dispersed through respiration and decomposition.

Ground water - water in the ground that is in the zone of saturation; water in the ground that exists at, or below the water table.

Guideline - practices, methods, techniques, and considerations used to ensure that progress is made in a way and at a rate that achieves the standard(s).

Gully - a channel resulting from erosion and caused by the concentrated but intermittent flow of water usually during and immediately following heavy rains.

Hydrologic cycle - the process in which water enters the atmosphere through evaporation, transpiration, or sublimation from the oceans, other surface water bodies, or from the land and vegetation, and through condensation and precipitation returns to the earth's surface. The precipitation then occurring as overland flow, streamflow, or percolating underground flow to the oceans or other surface water bodies or to other sites of envirotranspiration and recirculation to the atmosphere.

Indicators - parameters of ecosystem function that are observed, assessed, measured, or monitored to directly or indirectly determine attainment of a standard(s).

Infiltration - the downward entry of water into the soil.

Infiltration rate - the rate at which water enters the soil.

Nutrient cycling - the movement of essential elements and inorganic compounds between the reservoir pool (soil, for example) and the cycling pool (organisms) in the rapid exchange (e.g., moving back and forth) between organisms and their immediate environment.

Organic matter - plant and animal residues accumulated or deposited at the soil surface; the organic fraction of the soil that includes plant and animal residues at various stages of decomposition; cells and tissues of soil organisms, and the substances synthesized by the soil population.

Permeability - the ease with which gases, liquids, or plant roots penetrate or pass through a bulk mass of soil or a layer of soil.

Properly functioning condition - *Riparian/wetland*: adequate vegetation, landform, or large (coarse) woody debris is present to dissipate stream energy associated with high waterflows, thereby reducing erosion and improving water quality; filter sediment, capture bedload, and aid in floodplain development; improve floodwater retention and ground water recharge; develop root masses that stabilize streambanks against cutting action; develop diverse channel and ponding characteristics to provide the habitat and water depth, duration, and temperature necessary for fish production, waterfowl breeding, and other uses; and support greater biodiversity. The result of interaction among geology, soil, water, and vegetation. *Uplands*: soil and plant conditions support the physical processes of infiltration and moisture storage and promote soil stability (as appropriate to site potential); includes the production of plant cover and the accumulation of plant residue that protect the soil surface from raindrop impact, moderate soil temperature in minimizing frozen soil conditions (frequency, depth, and duration), and the loss of soil moisture to evaporation; root growth and development in the support of permeability and soil aeration. The result of interaction among geology, climate, landform, soil, and organisms.

Proper grazing use - grazing that, through the control of timing, frequency, intensity, and duration of use, meets the physiological needs of the desirable vegetation, provides for the establishment of desirable plants, and is in accord with the physical function and stability of soil and landform (properly functioning condition).

Reference area - site that, because of their condition and degree of function, represent the ecological potential or capability of similar sites in an area or region (ecological province); serve as a benchmark in determining the ecological potential of sites with similar soil, climatic, and landscape characteristics.

Rill - a small, intermittent water course with steep sides; usually only a few inches deep.

Riparian area - a form of wetland transition between permanently saturated wetlands and upland areas. These areas exhibit vegetation or physical characteristics reflective of permanent surface or subsurface water influence. Land along, adjacent to, or contiguous with perennially and intermittently flowing rivers and stream, glacial potholes, and shores of lakes and reservoirs with stable water levels are typical riparian areas. Excluded are such sites as ephemeral streams or washes that do not exhibit the presence of vegetation dependent upon free water in the soil. Includes, but is not limited to, jurisdictional wetlands.

Significant progress - when used in reference to achieving a standard: (actions), the necessary land treatments, practices, and/or changes to management have been applied or are in effect; (rate), a rate of progress that is consistent with the anticipated recovery rate described in plan objectives, with due recognition of the effects of climatic extremes (drought, flooding, etc.), fire, and other unforeseen naturally occurring events or disturbances. Monitoring reference areas that are ungrazed and properly grazed may provide evidence of appropriate recovery rates. (See Proper Grazing Use)

Soil density - (bulk density) - the mass of dry soil per unit bulk volume.

Soil moisture - water contained in the soil; commonly used to describe water in the soil above the water table.

Special Status species - species proposed for listing, officially listed (threatened/endangered), or candidate for listing as threatened or endangered by the Secretary of the Interior under the provisions of the Endangered Species Act; those listed or proposes for listing by the State in a category implying potential endangerment or extinction; those designated by each BLM State Director as sensitive.

Species of local importance - species of significant importance to American Indian populations (e.g., medicinal and food plants).

Standard - an expression of the physical and biological condition or degree of function necessary to sustain healthy rangeland ecosystems.

Uplands - land that exists above the riparian/wetland area, or active floodplains of rivers and streams; those lands not influenced by the water table or by free or unbound water; commonly represented by toe slopes, alluvial fans, and side slopes, shoulders, and ridges of mountains and hills.

Watershed - an area of land that contributes to the surface flow of water past a given point. The watershed dimensions are determined by the point past, or through which, runoff flows.

Watershed function - the principal functions of a watershed include the capture of moisture contributed by precipitation; the storage of moisture within the soil profile, and the release of moisture through the subsurface flow, deep percolation to ground water, evaporation from the soil, and transpiration by live vegetation.

Wetland - areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and which under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.

This Page Intentionally Left Blank

Appendix H - Herbicides Approved for Use Against Noxious Weeds Listed in “Vegetation Treatment on BLM Lands in Thirteen Western States EIS and ROD”

- Atrazine
- Bromacil
- Bromacil + Diuron
- Chlorsulfuron
- Clopyralid
- Clopyralid + 2,4-D
- 2,4-D*
- Dicamba*
- Dicamba + 2,4-D*
- Diuron
- Diuron + Imazapyr
- Diuron + Tebuthiuron
- Fosamine Ammonium
- Glyphosate*
- Glyphosate + 2,4-D*
- Glyphosate + Dicamba*
- Hexazinone
- Imazapyr
- Metfluidide
- Metsulfuron Methyl
- Picloram*
- Picloram + 2,4-D*
- Simazine
- Sulfometuron Methyl
- Tebuthiuron
- Triclopyr
- Triclopyr + 2,4-D
- Triclopyr + Clopyralid

*chemicals currently approved for noxious weed control in Oregon

Appendix I - Allotment Management Summaries and Potential Range Improvement Projects

Table I-1: Allotment Management Summaries

Allotment Name: Happy Valley		Allotment Number: 05309			
Management Category:	M	Public Land acres:	16,763	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	1996	Private acres:	2,569	Deer	25
Season of Use:	sp,su,fa	State acres:	0	Antelope	4
Yr S & G Assessment:	2001	Other Federal Acres:	0	Elk	88
Active AUMs:	2,267	Total Acres:	19,362	Wild Horses	132
Suspended AUMs:	131				
Total Permitted AUMs:	2,398			Total	249
Pasture/Area	Acres	% Public Domain		Objective ¹	
North	1,583	100		B	
South	2,599	86		A, B	
Government Field	1,389	100		A, B	
Deep Creek	2,486	31		A, B, D	
West Field	2,247	99		A, B	
Tank	1,071	100		A, B	
Fisher Field	668	92		A, B	
North Big Hill	2,522	93		A, B	
South Big Hill	3,633	98		A, B	
Smyth Creek Canyon	957	92		A, B, D	
Exclosure	30	97		C	
Hay Meadow	147	54		A, B	
<u>Allotment Management Plan Objectives:</u> - Maintain good condition in the crested wheatgrass seedings and an upward trend in low or mid-seral stage mountain big sagebrush/Idaho fescue, big sagebrush/squirreltail, and low sagebrush/Idaho fescue range sites in all pastures over the next 5 years. Maintain the sites in late-seral stage. - Cause upward trend in the riparian conditions on Smyth Creek and Riddle Creek. - Improve the stands of bitterbrush and snowberry in all pastures by assuring a 1:1 ratio of young and seedlings to dead and decadent plants.					
<u>Identified Resource Concerns</u> - Riparian areas - Water quality - Special Status Species: ferruginous hawk, redband trout, Malheur mottled sculpin - Kiger HMA - Kiger Mustang ACEC					
<u>Other</u> Only about 20% of the Happy Valley Allotment is within the Planning Area. The remaining portion of the allotment is within the Three Rivers Planning Area.					

¹ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Riddle Mountain		Allotment Number: 05310	
Management Category:	I	Public Land acres:	20,479
Yr AMP Implemented:	1992	Private acres:	2,436
Season of Use:	sp,su,fa	State acres:	92
Yr S & G Assessment:	1998	Other Federal Acres:	0
Active AUMS:	3,095	Total Acres:	23,007
Suspended AUMS:	291		
Total Permitted AUMS:	3,386		
		Other Forage Allocations (AUMS)	
		Deer	177
		Antelope	6
		Elk	188
		Wild Horses	0
		Total	371
<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective²</u>
Seeding	1,003	92	B
Riddle	3,164	95	A
Paul Creek	3,206	54	A, D
Big	8,081	98	A, D
Dry	4,294	86	B
South	571	100	B
Dollarhide	1,390	98	B, D
Sheep Trail	1,287	100	A
Pony Moore Spring	11	100	E
<u>Allotment Management Plan Objectives</u> - Maintain 14,360 acres currently in late-seral stage and 805 acres in PNC and cause an upward trend in 9,457 acres currently in mid-seral stage to provide habitat and forage for big game and livestock in the following amounts of forage over the next 6 years: 177 AUMs for deer, 188 AUMs for elk, 6 AUMs for antelope, and 2,600 AUMs for livestock. - Objective - "Continue to manage Paul Creek, Riddle Creek, and Coyote Creek for an upward trend in riparian condition and water quality." - Objective - "Maintain the availability and production of upland forbs for sage-grouse from May to mid-July each year in the Big Pasture during the next evaluation period." - Objective - "Improve 1,500 acres of big game habitat in unsatisfactory condition to satisfactory condition in the Dry, Dollarhide, Sheeptrail, Riddle/Coyote and Big Pastures over the next 6 years by controlling the density and spread of western juniper to promote understory browse species such as chokecherry and bitterbrush.			
<u>Identified Resource Concerns</u> - Water quality - Big game habitat, deer winter range - Elk forage allocations - Playa habitat - Riparian and aquatic habitat - Special status species: Greater sage-grouse, redband trout, Malheur mottled sculpin - Range condition			
<u>Other</u> - Only about 23% of the Riddle Mountain Allotment is within the Planning Area.			

² Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Jenkins B Flat FFR		Allotment Number: 05327	
Management Category: C	Public Land acres: 1,037	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented: None	Private acres: 3,466	Deer	0
Season of Use: None	State acres: 0	Antelope	0
Yr S & G Assessment: None	Other Federal Acres: 0	Elk	0
Active AUMs: 283	Total Acres: 4,503	Wild Horses	0
Suspended AUMs: 0			
Total Permitted AUMs: 283		Total	0
<u>Pasture/Area</u> Jenkins B Flat FFR	<u>Acres</u> 4,503	<u>% Public Domain</u> 23	<u>Objective³</u> E
<u>Allotment Management Plan Objectives:</u> 			
<u>Identified Resource Concerns</u> 			
<u>Other</u> 			

³ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Riddle/Coyote		Allotment Number: 05329	
Management Category: I	Public Land acres: 1,549	Other Forage Allocations (AUMs)	
Yr AMP Implemented: 1996	Private acres: 98	Deer	0
Season of Use: sp	State acres: 0	Antelope	0
Yr S & G Assessment: 1998	Other Federal Acres: 0	Elk	0
Active AUMs: 300	Total Acres: 1,647	Wild Horses	0
Suspended AUMs: 0		Total	0
Total Permitted AUMs: 300			
Pasture/Area	Acres	% Public Domain	Objective ⁴
Riddle/Coyote	1,647	94	B, D
<p><u>Allotment Management Plan Objectives:</u></p> <ul style="list-style-type: none"> - Maintain 14,360 acres currently in late-seral stage and 805 acres in PNC and cause an upward trend in 9,457 acres currently in mid-seral stage to provide habitat and forage for big game and livestock in the following amounts of forage over the next 6 years: 177 AUMs for deer, 188 AUMs for elk, 6 AUMs for antelope, and 2,600 AUMs for livestock. - Objective - "Continue to manage Paul Creek, Riddle Creek, and Coyote Creek for an upward trend in riparian condition and water quality." - Objective - "Improve 1,500 acres of big game habitat in unsatisfactory condition to satisfactory condition in the Dry, Dollarhide, Sheep trail, Riddle/Coyote and Big Pastures over the next 6 years by controlling the density and spread of western juniper to promote understory browse species such as chokecherry and bitterbrush. <p><u>Identified Resource Concerns</u></p> <ul style="list-style-type: none"> - Water quality - Forage allocations for elk - Riparian and aquatic habitat condition - Special status species: Greater sage-grouse - Range condition 			

⁴ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Smyth/Kiger		Allotment Number: 05331	
Management Category:	I	Public Land acres:	22,706
Yr AMP Implemented:	1996	Private acres:	7,351
Season of Use:	sp,su,fa	State acres:	0
Yr S & G Assessment:	1996	Other Federal Acres:	0
Active AUMs:	2,522	Total Acres:	30,057
Suspended AUMs:	0		
Total Permitted AUMs:	2,522		
		Other Forage Allocations (AUMs)	
		Deer	87
		Antelope	7
		Elk	140
		Wild Horses	852
		Total	1,086
Pasture/Area	Acres	% Public Domain	Objective ⁵
Swamp Creek	5,004	91	A, B, D
Yank Springs	3,453	93	A, B, D
Ant Hill	2,576	91	A, B
Wood Camp	4,865	100	A, B
Ruins	7,514	76	A, B
Hamilton Individual	1,021	100	A, B, D
Seep Creek	668	97	A, B, D
Private	4,956	7	E
<p><u>Allotment Management Plan Objectives:</u></p> <ul style="list-style-type: none"> - Cause an upward trend in the riparian habitat condition on Deep Creek, Smyth Creek, and Riddle Creek. - Maintain or increase the availability and production of upland forbs for sage-grouse from April through Mid-July in the allotment every year. - Cause an upward trend in low- or mid-seral mountain big sagebrush/Idaho fescue, mountain big sagebrush/bluebunch wheatgrass, juniper/snowberry/Idaho fescue, and low sagebrush/Sandberg's bluegrass range sites in all pastures for the next evaluation period. - Improve the stands of bitterbrush and snowberry in all pastures, ensuring a 1:1 ratio of young plants and seedlings to dead and decadent plants. <p><u>Identified Resource Concerns</u></p> <ul style="list-style-type: none"> - Riparian areas - Water quality - Kiger HMA - Kiger Mustang ACEC - Special Status Species: Greater sage-grouse, redband trout, Malheur mottled sculpin <p><u>Other</u></p> <p>Only about 36% of the Smyth-Kiger Allotment is within the Planning Area.</p>			

Allotment Name: Burnt Flat	Allotment Number: 05604
----------------------------	-------------------------

⁵ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	I	Public Land acres:	29,154	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	1996	Private acres:	5,414	Deer	83
Season of Use:	sp,su,fa	State acres:	394	Antelope	15
Yr S & G Assessment:	2001	Other Federal Acres:	0	Elk	64
Active AUMs:	3,863	Total Acres:	34,962	Wild Horses	672
Suspended AUMs:	0			Total	834
Total Permitted AUMs:	3,863				

Pasture/Area	Acres	% Public Domain	Objective ⁶
Louie Hughes	2,303	89	B
Oriana Flat	30,024	87	B
Big Sage	632	76	B
Private	2,003	23	E

Allotment Management Plan Objectives:

- Maintain all seral stages in current status to provide a diversity of habitat types and conditions and forage requirements during the next 5-6 years.
- Maintain the availability and production of upland forbs for Greater sage-grouse from May to mid-July during the next 5 years.

Identified Resource Concerns

- Riddle Mountain Wild Horse Herd Management Area
- Forage allocations for elk
- Playa habitat
- Kiger Mustang ACEC
- Special status species: Greater sage-grouse, ferruginous hawk
- Range condition

Other

- Only 87% of the Burnt Flat Allotment is within the Planning Area.

Allotment Name: North Catlow

Allotment Number: 06001

⁶ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category: I	Public Land acres: 177,966	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented: None	Private acres: 21,328	Deer	56
Season of Use: sp,su,fa,wi	State acres: 0	Antelope	14
Yr S & G Assessment: None	Other Federal Acres: 0	Elk	0
Active AUMs: 4,424	Total Acres: 199,294	Wild Horses	0
Suspended AUMs: 0		Total	70
Total Permitted AUMs: 4,424			

<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective⁷</u>
Rock Creek	175,647	89	A, B
North Duhaime	3,996	92	B
North Catlow Winter	16,213	89	A, B
South Duhaime	3,438	100	B

Allotment Management Plan Objectives:

Identified Resource Concerns

- Special Status Species: Greater sage-grouse
- Noxious weeds
- Riparian area

Allotment Name: South Steens

Allotment Number: 06002

⁷ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category: I	Public Land acres: 89,508	Other Forage Allocations (AUMs)
Yr AMP Implemented: 1995	Private acres: 1,392	Deer 500
Season of Use: sp,su,fa	State acres: 0	Antelope 22
Yr S & G Assessment: None	Other Federal Acres: 0	Elk 60
Active AUMs: 9,577	Total Acres: 90,900	Wild Horses 3,540
Suspended AUMs: 0		Total 4,122
Total Permitted AUMs: 9,577		

Pasture/Area	Acres	% Public Domain	Objective ⁸
Tombstone	29,741	99	A, B, D
Steens	41,699	99	A, B, D
Stephens	15,237	97	A, B, D
Hollywood Field	4,223	92	A, B

Allotment Management Plan Objectives:

- Improve the trend of riparian condition.
- Maintain and/or improve upland condition.
- Manage wild horse populations at an appropriate management level of between 159 and 304 animals to maintain a thriving ecological balance within the HMA.
- Provide viable habitats for threatened, endangered or sensitive species known to exist in the South Steens Allotment.
- Maintain the stability and flexibility of the ranching operation.
- Manage the WSAs within the allotment in accordance with the IMP.
- Manage to protect and enhance the Donner Und Blitzen National Wild and Scenic River as outlined in the Final Donner Und Blitzen River Management Plan and EA of May, 1993.
- Establish baseline data from which target or desired trends for fish and aquatic habitat characteristics will be determined.
- Maintain or improve aspen and riparian vegetation for the benefit of neotropical migrant songbirds and other species.
- Maintain watershed integrity to enhance hydrologic function. Achieve a mosaic of forage production and cover needs for wildlife and livestock. Enhance the richness of plant and animal species.

Identified Resource Concerns

- Steens Mountain CMPA
- Steens Mountain Wilderness
- Riparian areas
- Water quality
- Special Status Species: Greater sage-grouse, bighorn sheep
- Noxious weeds
- Blitzen River WSA
- South Steens HMA
- Donner Und Blitzen WSR
- Recreation
- Juniper encroachment

Allotment Name: Mud Creek

Allotment Number: 06005

⁸ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	I	Public Land acres:	8,245	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented:	None	Private acres:	0	Deer	86
Season of Use:	sp,su	State acres:	0	Antelope	5
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	9
Active AUMs:	590	Total Acres:	8,245	Wild Horses	0
Suspended AUMs:	0			Total	100
Total Permitted AUMs:	590				
<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>		<u>Objective⁹</u>	
Lower Field	4,016	100		A, B, D	
Upper Field	4,229	100		A, B, D	

Allotment Management Plan Objectives:

Identified Resource Concerns

- Bridge Creek WSA
- Riparian area
- Water quality
- Special Status Species: Greater sage-grouse
- Noxious weeds
- Juniper encroachment

Allotment Name: Frazier Field

Allotment Number: 06006

⁹ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

DRAFT ANDREWS MANAGEMENT UNIT/STEENS MOUNTAIN COOPERATIVE MANAGEMENT
AND PROTECTION AREA RESOURCE MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT

Management Category:	I	Public Land acres:	20,506	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	1991	Private acres:	14	Deer	311
Season of Use:	sp,su	State acres:	0	Antelope	6
Yr S & G Assessment:	None	Other Federal Acres:	80	Elk	9
Active AUMS	1,906			Wild Horses	108
Suspended AUMs	0				
Total Permitted AUMs	1,906	Total:	20,600	Total	434

Pasture/Area	Acres	% Public Domain	Objective ¹⁰
East River	5,101	100	A, B, D
Road	4,476	100	A, B
Old Frazier Field	3,968	100	A, B
Lower Seeding	954	100	B
West Upper River	3,023	100	A, B, D
West Lower River	2,093	96	A, B, D
Mud Creek Exclosure	1,085	100	C

Allotment Management Plan Objectives:

- Maintain existing forage allocations for livestock, wild horses and wildlife.
- Improve riparian condition of Mud Creek and the Donner Und Blitzen River.
- Improve and enhance aquatic habitat and water quality.
- Improve ecological status of upland vegetation.

Identified Resource Concerns

- Critical mule deer winter range
- South Steens HMA
- Steens Mountain Wilderness
- Blitzen River WSA
- Donner Und Blitzen WSR
- Noxious Weeds
- Water quality
- Special Status Species: Redband trout, Greater sage-grouse
- Steens Mountain CMPA
- Juniper encroachment

Allotment Name: Ruby Springs

Allotment Number: 06007

¹⁰ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	I	Public Land acres:	14,788	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	1991	Private acres:	613	Deer	58
Season of Use:	sp,su	State acres:	0	Antelope	8
Yr S & G Assessment:	None	Other Federal Acres:	36	Elk	36
Active AUMs:	1,950			Wild Horses	0
Suspended AUMs:	0	Total Acres:	15,437		
Total Permitted AUMs:	1,950			Total	102

Pasture/Area	Acres	% Public Domain	Objective ¹¹
Ruby Springs Seeding	1,284	98	B
Bird Reservoir	2,335	97	B
Ruby Springs	2,932	92	B
Bess Lake	3,762	98	A, B
Moon Hill	2,173	98	A, B
East Seeding	777	81	B
North Seeding	303	91	B
Elliot Field	1,103	100	A, B
Pack Trail	768	99	A, B, D

Allotment Management Plan Objectives:

- Maintain average annual livestock forage production of 2,466 AUMs with utilization targets of 50% on native ranges and 60% on crested wheatgrass seedings.
- Improve bitterbrush condition in Pasture #6 from the present decadent stand with no seedlings to a mixed stand of at least 5% seedlings, young and mature plants over a 10 year period.
- Improve ecological status of upland vegetation.
- Improve ecological condition of 1.25 miles of McCoy Creek from poor to fair by 1997 as represented by maintaining upward trend in willow and herbaceous cover.

Identified Resource Concerns

- Noxious weeds
- Special Status Species: Greater sage-grouse
- Riparian areas
- Water quality
- Steens Mountain CMTA
- Juniper encroachment

Allotment Name: Krumbo

Allotment Number: 06008

¹¹ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	M	Public Land acres:	14,413	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented:	2000	Private acres:	1,130	Deer	11
Season of Use:	sp,su,fa	State acres:	0	Antelope	10
Yr S & G Assessment:	2000	Other Federal Acres:	681	Elk	0
Active AUMs:	4,133			Wild Horses	0
Suspended AUMs:	0	Total Acres:	16,224	Total	21
Total Permitted AUMs:	4,133				

<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective¹²</u>
Witzel Well	886	95	B
Witzel Tank	1,273	100	B
West Anderson	1,105	86	B
North Hogwallow	1,810	80	B
East Hogwallow	2,787	94	B
McLean	1,305	100	B
Exchange	381	100	B
East Anderson	1,888	83	B
South Hogwallow	841	86	B
Dell Witzel	1,781	100	B
Middle Hogwallow	1,536	92	B
Private	631	18	E

Allotment Management Plan Objectives:

- Maintain existing seral stage of native plant communities within the allotment over the next 10 years.
- Maintain or improve crested wheatgrass seeding condition and allow an increase in occupancy by Wyoming big sagebrush to a level not to exceed 25% within the allotment over the next 10 years.
- Maintain the stability and flexibility of the ranching operations. Improve productivity of the private land not in the allotment.

Identified Resource Concerns

- Noxious weeds
- Antelope summer range
- Mule deer winter range

Allotment Name: East Ridge

Allotment Number: 06010

¹² Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	I	Public Land acres:	5,066	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	5,440	Deer	115
Season of Use:	sp,su	State acres:	0	Antelope	2
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	44
Active AUMs:	431			Wild Horses	0
Suspended AUMs:	0	Total Acres:	10,506	Total	161
Total Permitted AUMs:	431				

<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective¹³</u>
West Kiger	1,642	78	A, B
Upper Ridge	817	34	A, B
Lower 3 Forks	1,252	41	A, B, D
Upper 3 Forks	1,954	11	A, B, D
Middle Canyon	2,161	67	A, B, D
Lower Gorge	949	28	A, B, D
Upper Gorge	1,731	62	A, B, D

Allotment Management Plan Objectives:

Identified Resource Concerns

- Noxious weeds
- Riparian areas
- Water quality
- Juniper encroachment
- High Steens WSA
- Steens Mountain Wilderness
- Steens Mountain CMPA
- Special Status Species: Bighorn sheep, Greater sage-grouse

Allotment Name: Pollock

Allotment Number: 06011

¹³ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Alvord	Allotment Number: 06012
------------------------	-------------------------

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category: I	Public Land acres: 223,895	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented: 1985	Private acres: 5,600	Deer	244
Season of Use: sp,su,fa,wi	State acres: 0	Antelope	20
Yr S & G Assessment: 2003	Other Federal Acres: 0	Elk	0
Active AUMs: 7,355	Total Acres: 229,495	Wild Horses	1,200
Suspended AUMs: 1,892		Total	1,464
Total Permitted AUMs: 9,247			
<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective¹⁵</u>
Alvord Seeding	2,937	100	A
North Foothills	5,807	63	A, B, D
South Foothills	4,052	60	A, B, D
Table Mountain	20,743	100	B
Desert	190,425	99	B
Pike Creek	5,281	94	A, B, D
<p><u>Allotment Management Plan Objectives:</u></p> <ul style="list-style-type: none"> - Maintain or improve ecological status of the vegetation. - Maintain the aesthetic and visual conditions of lands and waters. - Prevent accelerated erosion. - Maintain the natural diversity of wildlife by maintaining existing habitat, including adequate browse for mule deer within the Foothills Pasture. - Maintain naturalness, solitude and primitive recreation. - Increase production of livestock and wild horse forage through range improvements and changes in grazing systems. Restore 1,892 AUMs of suspended non-use in the Desert Pasture. Maintain a minimum of 1,200 AUMs of forage for wild horses within the Desert Pasture. <p><u>Identified Resource Concerns</u></p> <ul style="list-style-type: none"> - Steens Mountain Wilderness - Wilderness Study Areas: High Steens WSA, Alvord Desert WSA, Winter Range WSA, East Alvord WSA, Table Mountain WSA, Wildcat Canyon WSA - Riparian areas - Water quality - Special Status Species: Bighorn sheep, Greater sage-grouse, Lahontan cutthroat trout - Areas of Critical Environmental Concern: Mickey Basin RNA/ACEC, Alvord Desert ACEC, Proposed Mickey Hot Springs ACEC, Proposed Big Alvord Creek RNA/ACEC - Special Status Plant habitat - Recreation 			

Allotment Name: Tum Tum

Allotment Number: 06014

¹⁵ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	M	Public Land acres:	7,374	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented:	1985	Private acres:	705	Deer	9
Season of Use:	wi	State acres:	0	Antelope	1
Yr S & G Assessment:	1999	Other Federal Acres:	0	Elk	0
Active AUMs:	730			Wild Horses	0
Suspended AUMs:	0	Total Acres:	8,079		
Total Permitted AUMs:	730			Total	10

Pasture/Area	Acres	% Public Domain	Objective ¹⁶
North Tum Tum	6,605	99	B
South Tum Tum	770	100	A, B
Coleman	704	5	A, B

Allotment Management Plan Objectives:

- Provide for a sustained level of livestock grazing consistent with other resource objectives and public land use allocations.
- Protect and enhance the diversity and distribution of desirable vegetative communities. Implement appropriate actions to ensure that established regional standards and guidelines of rangeland health are met.
- Manage the allotment to protect and maintain populations and habitat for special status plant species.
- Control the introduction and proliferation of noxious weed species and reduce the extent and density of established weed species to within acceptable limits.
- Manage the allotment to maintain or enhance populations and habitats of special status animal species.

Identified Resource Concerns

- Special Status Species: Alvord chub
- Noxious weeds

Allotment Name: Trout Creek Mountain

Allotment Number: 06015

¹⁶ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	I	Public Land acres:	85,442	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	1989	Private acres:	2,931	Deer	483
Season of Use:	sp,su	State acres:	0	Antelope	17
Yr S & G Assessment:	2000	Other Federal Acres:	0	Elk	0
Active AUMs:	8,352			Wild Horses	0
Suspended AUMs:	0	Total Acres:	88,373	Total	500
Total Permitted AUMs:	8,352				

Pasture/Area	Acres	% Public Domain	Objective ¹⁷
Red Mountain	16,925	97	A, B
Antelope Seeding	4,581	100	B
Stony	13,369	97	A, B, D
Flagstaff Seeding	2,189	100	B
Buckskin Mountain	6,523	97	B
Little Trout Creek Seeding	2,869	99	B
Pole Patch	4,910	98	A, B, D
Chalk Canyon	312	98	B
No Name	9,580	100	A, B
East Fork	11,459	92	A, B, D
West Buckskin	4,213	99	B
Rock Creek Springs	36	100	C
Government Corrals	54	94	C
Mahogany	5,176	93	A, B, D
Headwaters	3,419	100	A, B, D
Rock Cabin	2,758	80	A, B, D

Allotment Management Plan Objectives:

- Improve and enhance aquatic habitat and water quality.
- Improve and maintain riparian habitat.
- Improve and maintain upland vegetation.
- Improve and enhance habitat for special status species.
- Maintain and enhance primary wilderness values.
- Maintain existing forage allocation for livestock and wildlife.
- Protect the relevant values of existing/proposed RNA/ACECs

Identified Resource Concerns:

- Water quality
- Special Status Species: Greater Sage-grouse
- Wilderness Study Areas: Disaster Peak WSA, Mahogany Ridge WSA, Red Mountain WSA, Willow Creek WSA
- Proposed East Fork Trout Creek RNA/ACEC
- Noxious weeds
- Riparian areas
- Recreation

Allotment Name: Sandhills	Allotment Number: 06016
---------------------------	-------------------------

¹⁷ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	M	Public Land acres:	17,976	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented:	1992	Private acres:	159	Deer	10
Season of Use:	sp,su,fa,wi	State acres:	0	Antelope	5
Yr S & G Assessment:	2002	Other Federal Acres:	0	Elk	0
Active AUMs:	2,294			Wild Horses	0
Suspended AUMs:	0	Total Acres:	18,135		
Total Permitted AUMs:	2,294			Total	15

Pasture/Area	Acres	% Public Domain	Objective ¹⁸
Maggie Creek	4,495	100	A, B
Road	7,199	99	A, B
Winter Seeding	1,376	100	A, B
Holloway Mountain	2,546	98	B
Native Winter	2,175	100	A, B
Ryegrass	344	86	B

Allotment Management Plan Objectives:

- Provide for a sustained level of livestock grazing, consistent with other resource objectives and public land use allocations.
- Control the introduction and proliferation of noxious weed species and reduce the extent and density of established weed species to within acceptable limits.
- Improve the ecological status of the native range to 25% late-seral, 15% mid-seral, and 5% early-seral in 10 years. Maintain 100% of the good to excellent crested wheatgrass seeding on the Wyoming big sagebrush types and at least 50% of the fair to good seeding on the greasewood and shadscale vegetation types.

Identified Resource Concerns

- Noxious weeds
- Special Status Species: Greater sage-grouse

Other

Portions of the Sandhills Allotment are in Nevada, outside the Planning Area.

¹⁸ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Grassy Basin		Allotment Number: 06017	
Management Category: M	Public Land acres: 6,927	Other Forage Allocations (AUMs)	
Yr AMP Implemented: 1992	Private acres: 3,201	Deer	18
Season of Use: sp,su	State acres: 0	Antelope	2
Yr S & G Assessment: None	Other Federal Acres: 0	Elk	0
Active AUMs: 942	Total Acres: 10,128	Wild Horses	0
Suspended AUMs: 0			
Total Permitted AUMs: 942		Total	20
<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective¹⁹</u>
Lower Grassy Basin	2,464	96	A, B
Upper Grassy Basin	1,651	100	B
Lower Crow Creek	594	4	A, B
Middle Crow Creek	670	10	A, B, D
South Fork	2,744	57	A, B, D
Upper Crow Cr/Long Cny	1,320	93	A, B, D
Log Cabin	685	2	A, B
<u>Allotment Management Plan Objectives:</u> - Maintain livestock forage production of 942 AUMs on public land. - Improve poor and fair range condition to fair and good within 15 years.			
<u>Identified Resource Concerns</u> - Riparian areas - Special Status Species: Greater sage-grouse - Water quality			
<u>Other</u> Portions of the Grassy Basin Allotment are in Nevada and are outside the Planning Area.			

¹⁹ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Tule Springs		Allotment Number: 06018	
Management Category: I	Public Land acres: 136,895	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented: 1989	Private acres: 12,789	Deer	108
Season of Use: wi	State acres: 0	Antelope	24
Yr S & G Assessment: 2000	Other Federal Acres: 0	Elk	0
Active AUMs: 5,506	Total Acres: 149,684	Wild Horses	480
Suspended AUMs: 0			
Total Permitted AUMs: 5,506			
Total			612

<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective²⁰</u>
Tule Springs	116,893	90	A, B
Fields	14,483	99	A, B
Trout Creek Lane	176	100	C
Rim	13,786	97	A, B
Alvord Slough Exclosure	210	96	C
Kueny	3,429	97	A, B
Borax Lake ACEC Excl.	591	73	C
N. Borax Springs Excl.	116	9	C

Allotment Management Plan Objectives:

- Improve and maintain upland vegetation.
- Improve and maintain riparian habitat.
- Improve and enhance habitat for wildlife.
- Improve and enhance habitat for special status species.
- Maintain existing forage allocation for livestock, wild horses and wildlife.

Identified Resource Concerns

- Special Status Species: Borax Lake chub, Alvord chub, bighorn sheep
- Alvord-Tule Springs HMA
- Borax Lake ACEC
- Noxious Weeds
- Serrano Point Proposed RNA/ACEC
- Alvord Desert WSA

²⁰ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Serrano Point		Allotment Number: 06019	
Management Category:	I	Public Land acres:	14,008
Yr AMP Implemented:	None	Private acres:	1,086
Season of Use:	sp,su,fa	State acres:	0
Yr S & G Assessment:	None	Other Federal Acres:	0
Active AUMs:	500	Total Acres:	15,094
Suspended AUMs:	0		
Total Permitted AUMs:	500		
		Other Forage Allocations (AUMs)	
		Deer	107
		Antelope	4
		Elk	0
		Wild Horses	0
		Total	111
Pasture/Area	Acres	% Public Domain	Objective²¹
Serrano Point	6,122	88	A, B
Stonehouse	4,499	100	A, B
Indian Creek	4,473	93	A, B
Allotment Management Plan Objectives:			
Identified Resource Concerns			
- Steens Mountain Wilderness			
- Riparian areas			
- Special Status Species: bighorn sheep			
- Steens Mountain CMPA			

Allotment Name: Pueblo-Lone Mountain	Allotment Number: 06020
--------------------------------------	-------------------------

²¹ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category: I	Public Land acres: 218,995	Other Forage Allocations (AUMs)	
Yr AMP Implemented: 1996	Private acres: 5,256	Deer	346
Season of Use: sp,su,fa,wi	State acres: 0	Antelope	35
Yr S & G Assessment: None	Other Federal Acres: 0	Elk	0
Active AUMs: 13,149	Total Acres: 224,251	Wild Horses	0
Suspended AUMs: 0		Total	381
Total Permitted AUMs: 13,149			

Pasture/Area	Acres	% Public Domain	Objective ²²
Pueblo Valley	599	100	A
MW Rincon Seeding	808	100	B
ME Rincon Seeding	734	100	B
Desert	92,384	100	B
SE Rincon Seeding	2,103	100	B
SW Rincon Seeding	1,276	100	B
Pueblo Ridge	86,304	95	A, B, D
Starr Winter	8,661	99	A, B
Oregon End Winter	29,006	100	A, B
Tum Tum Exclosure	1,804	97	C
East Pueblo Corral	572	94	B

Allotment Management Plan Objectives:

- Improve and maintain upland vegetation.
- Improve and maintain riparian vegetation.
- Improve and enhance habitat for wildlife species.
- Improve and enhance habitat for special status species.
- Improve and enhance aquatic habitat and water quality.
- Continue to improve riparian condition in Van Horn Creek for Lahontan cutthroat trout habitat.
- Improve the structure and reproductive potential of special vegetative communities.
- Maintain existing forage allocation for livestock and wildlife.
- Maintain and enhance primary wilderness values.
- Protect the relevant values of existing/proposed RNA/ACECs

Identified Resource Concerns

- Special Status Species: Lahontan cutthroat trout, bighorn sheep, Western burrowing owl, Greater sage-grouse
- Wilderness Study Areas: Basque Hills WSA, Hawk Mountain WSA, Pueblo Mountain WSA, Rincon WSA
- Water quality
- Noxious weeds
- Tum Tum RNA/ACEC, Pueblo Foothills RNA/ACEC, Long Draw RNA/ACEC
- Riparian areas

Allotment Name: Pueblo Mountain

Allotment Number: 06021

²² Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	I	Public Land acres:	8,177	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented:	1990	Private acres:	611	Deer	28
Season of Use:	sp,su,fa	State acres:	0	Antelope	1
Yr S & G Assessment:	1999	Other Federal Acres:	0	Elk	0
Active AUMs:	323			Wild Horses	0
Suspended AUMs:	0	Total Acres:	8,788		
Total Permitted AUMs:	323			Total	29

Pasture/Area	Acres	% Public Domain	Objective ²³
Denio Basin	2,951	89	A, B, D
Pueblo Mountain	2,647	100	A, B, D
Alberson Basin	1,132	100	A, B
Cowden	1,538	97	A, B
Private	520	52	E

Allotment Management Plan Objectives:

- Manage, maintain and improve public rangeland conditions to provide forage on a sustained yield basis for big game with an initial forage demand of 84 AUMs for mule deer.
- Manage, maintain and improve public rangeland conditions to provide forage on a sustained yield basis for livestock, with an initial stocking level of 2,069 AUMs.
- Improve or maintain 115 acres of mountain mahogany habitat types in good condition by allowing for successful reproduction and recruitment in the stand.
- Improve to maintain the following stream habitat conditions on Denio Creek at 60% or above: streambank cover of 60% or above; streambank stability of 60% or above; maximum summer water temperatures below 68 degrees F.
- Improve or maintain suitable sage-grouse strutting, nesting, brood rearing, and/or wintering habitat in good condition.
- Improve to maintain state water quality standards for Denio Creek.
- Improve or maintain 93 acres of riparian meadow habitat types to ensure species diversity and quality, and maximize reproduction and recruitment of woody riparian species.

Identified Resource Concerns

- Pueblo Mountain WSA
- Riparian area
- Water quality
- Special Status Species: Greater sage-grouse, Lahontan cutthroat trout, bighorn sheep

Other

- The entire allotment extends into Nevada and totals 26,311 acres of public land. The total permitted use in the allotment as a whole is 2,069 AUMs. Only the portion within Oregon is in the Planning Area.

Allotment Name: Kings River	Allotment Number: 06022
-----------------------------	-------------------------

²³ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category: I	Public Land acres: 1,771	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented: None	Private acres: 0	Deer	10
Season of Use: su,fa	State acres: 0	Antelope	0
Yr S & G Assessment: None	Other Federal Acres: 0	Elk	0
Active AUMS: 113	Total Acres: 1,771	Wild Horses	0
Suspended AUMs: 0		Total	10
Total Permitted AUMs: 113			
<u>Pasture/Area</u> Kings River	<u>Acres</u> 1,771	<u>% Public Domain</u> 100	<u>Objective²⁴</u> A, B, D

Allotment Management Plan Objectives:

Identified Resource Concerns

- Disaster Peak WSA
- Riparian areas
- Water quality
- Special Status Species: Greater sage-grouse

Other

- The entire allotment contains 145,930 acres and 12,192 AUMs. There are 1,771 acres and 113 AUMs in Oregon, within the Planning Area.

Allotment Name: Hammond

Allotment Number: 06023

²⁴ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	I	Public Land acres:	11,009	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	2,077	Deer	33
Season of Use:	sp,su,fa	State acres:	0	Antelope	6
Yr S & G Assessment:	None	Other Federal Acres:	635	Elk	0
Active AUMs:	473			Wild Horses	0
Suspended AUMs:	0	Total Acres:	13,721		
Total Permitted AUMs:	473			Total	39

Pasture/Area	Acres	% Public Domain	Objective ²⁵
N Dutch Oven Seeding	1,304	92	B
Krumbo Creek	2,087	71	A, D
Kern Reservoir	2,245	46	A
Webb Springs	1,550	100	B
Knox Spring	2,492	100	B
Larkspur Reservoir	1,245	100	B
Baca Lake	616	10	B
Knox Pond	249	20	B
Landing Strip	240	99	B
S Dutch Oven Seeding	601	95	B
Hole in the Ground	437	100	B
Artesian	655	100	B

Allotment Management Plan Objectives:

Identified Resource Concerns

- Bridge Creek WSA
- Special Status Species: Greater sage-grouse
- Critical mule deer winter range
- Noxious weeds
- Water quality
- Riparian areas

Allotment Name: South Fork	Allotment Number: 06024
----------------------------	-------------------------

²⁵ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

DRAFT ANDREWS MANAGEMENT UNIT/STEENS MOUNTAIN COOPERATIVE MANAGEMENT
AND PROTECTION AREA RESOURCE MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT

Management Category: M	Public Land acres: 381	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented: 1986	Private acres: 138	Deer	1
Season of Use: sp	State acres: 0	Antelope	0
Yr S & G Assessment: None	Other Federal Acres: 0	Elk	0
Active AUMs: 40	Total Acres: 519	Wild Horses	0
Suspended AUMs: 0		Total	1
Total Permitted AUMs: 40			
<u>Pasture/Area</u> South Fork	<u>Acres</u> 519	<u>% Public Domain</u> 73	<u>Objective</u> ²⁶ A, B, D
<u>Allotment Management Plan Objectives:</u> - Improve and maintain riparian habitat. - Improve and maintain upland vegetation. - Maintain existing forage allocation for livestock and wildlife. <u>Identified Resource Concerns</u> - Noxious Weeds - Riparian area			

Allotment Name: Hardie Summer

Allotment Number: 06025

²⁶ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	M	Public Land acres:	2,405	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented:	1991	Private acres	3,719	Deer	332
Season of Use:	su,fa	State acres:	0	Antelope	1
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	10
Active AUMs:	408			Wild Horses	0
Suspended AUMs:	0	Total Acres:	6,124		
Total Permitted AUMs:	408			Total	343

<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective</u> ²⁷
Cabin	3,949	50	A, B, D
North	2,175	19	A, B, D

Allotment Management Plan Objectives:

Identified Resource Concerns

- Riparian area
- Special Status Species: Greater sage-grouse
- Noxious weeds
- Water quality
- Juniper encroachment

Allotment Name: Mann Lake

Allotment Number: 06026

²⁷ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	I	Public Land acres:	35,363	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented:	None	Private acres:	1,460	Deer	110
Season of Use:	sp,wi	State acres:	0	Antelope	6
Yr S & G Assessment:	2002	Other Federal Acres:	0	Elk	15
Active AUMs:	3,670			Wild Horses	0
Suspended AUMs:	0	Total Acres:	36,823		
Total Permitted AUMs:	3,670			Total	131

<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective²⁸</u>
N Mann Lake Seeding	1,686	99	B
S Mann Lake Seeding	1,628	85	A, B
South Foothills	6,065	86	A, B, D
East Desert	12,443	100	B
North Foothills	2,001	88	A, B
West Desert	12,570	99	B
Mann Lake Rec Area	430	91	C

Allotment Management Plan Objectives:

Identified Resource Concerns

- Steens Mountain Wilderness
- Wilderness Study Areas: High Steens, West Peak, Table Mountain, Lower Stonehouse
- Special Status Species: Lahontan cutthroat trout, bighorn sheep
- Steens Mountain CMPA
- Noxious weeds
- Water quality
- Recreation

Allotment Name: Carlson Creek

Allotment Number: 06027

²⁸ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	I	Public Land acres:	8,876	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	4,017	Deer	29
Season of Use:	sp,su,fa	State acres:	0	Antelope	2
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMs:	684	Total Acres:	12,893	Wild Horses	0
Suspended AUMs:	0			Total	31
Total Permitted AUMs:	684				

Pasture/Area	Acres	% Public Domain	Objective ²⁹
Carlson Creek	5,916	84	A, B, D
Juniper Creek	6,977	56	A, B, D

Allotment Management Plan Objectives:

Identified Resource Concerns

- Steens Mountain Wilderness
- Riparian areas
- Special Status Species: Bighorn sheep, Greater sage-grouse
- Steens Mountain CMPA
- Noxious weeds

Allotment Name: Fields	Allotment Number: 06028
------------------------	-------------------------

²⁹ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category: I	Public Land acres: 4,837	Other Forage Allocations (AUMs)
AMP Implemented: None	Private acres: 192	Deer 5
Season of Use: sp,su	State acres: 0	Antelope 0
S & G Assessment: None	Other Federal Acres: 0	Elk 0
Active AUMs: 210	Total Acres: 5,029	Wild Horses 0
Suspended AUMs: 0		Total 5
Total Permitted AUMs: 210		

Pasture/Area	Acres	% Public Domain	Objective ³⁰
Scoules Creek	1,882	91	A, B
Pedro	1,185	98	A, B
Fields Seeding	1,807	100	A, B
Williams Creek	155	100	A, B, D

Allotment Management Plan Objectives:

- Improve and maintain upland vegetation.
- Improve and maintain riparian habitat on Bone Creek and Williams Creek.
- Maintain existing forage allocation for livestock and wildlife.

Identified Resource Concerns

- Noxious Weeds
- Riparian areas
- Water quality

Allotment Name: Keg Springs

Allotment Number: 06029

³⁰ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	I	Public Land acres:	40,661	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented:	1991	Private acres:	503	Deer	13
Season of Use:	sp,su,fa	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMs:	1,791			Wild Horses	0
Suspended AUMs:	0	Total Acres:	41,164		
Total Permitted AUMs:	1,791			Total	13

<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective</u> ³¹
Keg Springs	35,506	99	A, B
Walls Lake Seeding	5,658	100	A, B

Allotment Management Plan Objectives:

- Provide 1,791 AUMs of forage for livestock on public lands throughout the allotment as constrained by sustained yield and multiple use.
- Improve the ecological status of the uplands.
- Provide 5 AUMs of competitive forage for wildlife.

Identified Resource Concerns

- Noxious weeds
- Special Status Species: Greater sage-grouse

³¹ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Riecken's Corner		Allotment Number: 06030	
Management Category: M	Public Land acres: 8,841	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented: 1991	Private acres: 999	Deer	3
Season of Use: sp,su,fa	State acres: 0	Antelope	4
Yr S & G Assessment: None	Other Federal Acres: 0	Elk	0
Active AUMs: 688	Total Acres: 9,840	Wild Horses	0
Suspended AUMs: 0		Total	7
Total Permitted AUMs: 688			
<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective³²</u>
- Sand Hollow Seeding	1,687	100	A, B
- Gene Miller Seeding	2,289	75	A, B
- Reicken's Corner	5,864	93	A, B
<p><u>Allotment Management Plan Objectives:</u></p> <ul style="list-style-type: none"> - Provide 688 AUMs of forage for livestock on public lands throughout the allotment as constrained by sustained yield and multiple use. - Improve the ecological status of the uplands. - Provide 7 AUMs of competitive forage for wildlife. <p><u>Identified Resource Concerns</u></p> <ul style="list-style-type: none"> - Noxious weeds - Special Status Species: Greater sage-grouse 			

³² Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: LaVoy Tables		Allotment Number: 06031	
Management Category:	I	Public Land acres:	38,257
Yr AMP Implemented:	1991	Private acres:	692
Season of Use:	sp,su,fa	State acres:	0
Yr S & G Assessment:	2001	Other Federal Acres:	1,016
Active AUMs:	1,653	Total Acres:	39,965
Suspended AUMs:	0		
Total Permitted AUMs:	1,653		
		Other Forage Allocations (AUMs)	
		Deer	136
		Antelope	7
		Elk	0
		Wild Horses	0
		Total	143
<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective³³</u>
Savoy Lake	16,173	96	A, B
LaVoy Tables	12,384	100	A, B
P Hill	7,751	99	B
Hwy 205	3,657	71	C
<p><u>Allotment Management Plan Objectives:</u></p> <ul style="list-style-type: none"> - Provide 2,373 AUMs for livestock, 36 AUMs for wild horses and 60 AUMs for wildlife as constrained by sustained yield and multiple use. - Maintain and/or improve ecological status of the allotment. - Maintain wilderness characteristics within the Blitzen River WSA. <p><u>Identified Resource Concerns</u></p> <ul style="list-style-type: none"> - Noxious weeds - Special Status Species: Greater sage-grouse - Blitzen River WSA - Steens Mountain CMPA - Pickett Rim ACEC 			

Allotment Name: Krumbo Mountain	Allotment Number: 06032
---------------------------------	-------------------------

³³ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category: I	Public Land acres: 17,353	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented: 1991	Private acres: 6	Deer	43
Season of Use: su,fa	State acres: 0	Antelope	4
Yr S & G Assessment: None	Other Federal Acres: 0	Elk	30
Active AUMs: 1,059		Wild Horses	0
Suspended AUMs: 0	Total Acres: 17,359	Total	77
Total Permitted AUMs: 1,059			
<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective³⁴</u>
Krumbo Ridge	9,301	100	A, B
Krumbo Mountain	8,058	100	A, B
<p><u>Allotment Management Plan Objectives:</u></p> <ul style="list-style-type: none"> - Provide 1,059 AUMs of forage for livestock on public lands throughout the allotment as constrained by sustained yield and multiple use. - Maintain and/or improve ecological status of the allotment. - Provide 77 AUMs of competitive forage for wildlife. - Maintain wilderness characteristics within the Bridge Creek WSA. <p><u>Identified Resource Concerns</u></p> <ul style="list-style-type: none"> - Bridge Creek WSA - Special Status Species: Greater sage-grouse - Steens Mountain CMPA - Noxious weeds - Juniper encroachment 			

³⁴ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Allotment Name: Chimney		Allotment Number: 06033	
Management Category: I	Public Land acres: 14,769	Other Forage Allocations (AUMs)	
Yr AMP Implemented: None	Private acres: 10,125	Deer	149
Season of Use: sp,su,fa	State acres: 0	Antelope	6
Yr S & G Assessment: None	Other Federal Acres: 0	Elk	38
Active AUMs: 2,015	Total Acres: 24,894	Wild Horses	0
Suspended AUMs: 0		Total	193
Total Permitted AUMs: 2,015			
Pasture/Area	Acres	% Public Domain	Objective ³⁵
West Crested	1,539	84	B
North Crested	816	77	B
Chimney	5,455	65	B, D
Oliver Springs	2,227	74	B, D
Big Field	1,563	25	D, E
Mountain Top	9,885	61	B, D
Thoroughbred	321	16	B, E
Cow Camp	299	0	E
Horton Creek	317	69	B, D
Doe Camp	1,470	51	D
Private	1,002	8	E
<p><u>Allotment Management Plan Objectives:</u></p> <ul style="list-style-type: none"> - Maintain and/or improve ecological status throughout the allotment. - Maintain or enhance water quality. - Preserve wilderness characteristics within the High Steens WSA. - Maintain cover (sagebrush and juniper) for wintering mule deer. - Maintain habitat for <i>Castilleja pilosa</i> v. <i>steenensis</i> near Kiger overlook and west to the head of McCoy Creek. - Obtain an upward trend on 20.98 miles of streamside riparian vegetation. <p><u>Identified Resource Concerns</u></p> <ul style="list-style-type: none"> - Riparian habitat - Water quality - Special Status Species: Greater sage-grouse, redband trout, Malheur mottled sculpin, spotted frog - Steens Mountain Wilderness - Steens Mountain CMPA - High Steens WSA - Noxious Weeds - Juniper encroachment 			

Allotment Name: Fields Basin	Allotment Number: 06035
------------------------------	-------------------------

³⁵ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

DRAFT ANDREWS MANAGEMENT UNIT/STEENS MOUNTAIN COOPERATIVE MANAGEMENT
AND PROTECTION AREA RESOURCE MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT

Management Category: I	Public Land acres: 30,968	<u>Other Forage Allocations (AUMs)</u>	
AMP Implemented: None	Private acres 1,773	Deer	49
Season of Use: sp,su,fa	State acres: 0	Antelope	7
S & G Assessment: None	Other Federal Acres: 0	Elk	0
Active AUMs: 3,325	Total Acres: 32,741	Wild Horses	0
Suspended AUMs: 0		Total	56
Total Permitted AUMs: 3,325			
<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective³⁶</u>
Long Hollow	1,983	100	A, B
Fields Basin	9,710	97	A, B
McDade	14,774	94	A, B, D
North Rincon Seeding	675	100	A, B
Summit	694	100	A, B
Private Field	452	5	A, B
O'Keefe	4,453	98	A, B, D
<u>Allotment Management Plan Objectives:</u> - Improve and maintain upland vegetation. - Improve and maintain riparian vegetation. - Improve and enhance habitat for wildlife species. - Improve and enhance habitat for special status species. - Improve the structure and reproductive potential of special vegetative communities. - Maintain existing forage allocation for livestock and wildlife. - Maintain and enhance primary wilderness values.			
<u>Identified Resource Concerns</u> - Special Status Species: Bighorn sheep, Greater sage-grouse - Wilderness Study Area: Rincon WSA - Noxious weeds			

Allotment Name: Bridge Creek	Allotment Number: 06037
------------------------------	-------------------------

³⁶ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	I	Public Land acres:	3,603	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented:	None	Private acres:	56	Deer	8
Season of Use:	su,fa	State acres:	0	Antelope	32
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMs:	459			Wild Horses	0
Suspended AUMs:	0	Total Acres:	3,659		
Total Permitted AUMs:	459			Total	40

<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective</u> ³⁷
Bridge Creek	3,061	100	B, D
Thompson	598	92	B, D

Allotment Management Plan Objectives:

Identified Resource Concerns

- Special Status Species: Greater sage-grouse
- Noxious weeds
- Fir Groves Proposed ACEC
- Juniper encroachment

Allotment Name: Alvord Peak	Allotment Number: 06038
-----------------------------	-------------------------

³⁷ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

DRAFT ANDREWS MANAGEMENT UNIT/STEENS MOUNTAIN COOPERATIVE MANAGEMENT
AND PROTECTION AREA RESOURCE MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT

Management Category:	I	Public Land acres:	24,354	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented:	None	Private acres:	709	Deer	28
Season of Use:	sp,fa	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMs:	2,328			Wild Horses	0
Suspended AUMs:	0	Total Acres:	25,063		
Total Permitted AUMs:	2,328			Total	28

<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective³⁸</u>
Bone Creek	7,708	99	A, B, D
Miners Field	10,033	95	A, B
Schouver Flat Seeding	1,305	100	B
Alvord Peak	6,008	98	A, B
Burke Spring Excl	9	100	C

Allotment Management Plan Objectives:

Identified Resource Concerns

- Steens Mountain CMPA
- Steens Mountain Wilderness
- Alvord Peak ACEC
- Riparian areas
- Special Status Species: Bighorn sheep, Greater sage-grouse
- Noxious weeds

Allotment Name: Stonehouse

Allotment Number: 06040

³⁸ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	I	Public Land acres:	10,517	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented:	None	Private acres:	321	Deer	39
Season of Use:	su	State acres:	0	Antelope	3
Yr S & G Assessment:	1999	Other Federal Acres:	0	Elk	17
Active AUMs:	1,772			Wild Horses	0
Suspended AUMs:	0	Total Acres:	10,838		
Total Permitted AUMs:	1,772			Total	59

<u>Pasture/Area</u> Stonehouse	<u>Acres</u> 10,838	<u>% Public Domain</u> 97	<u>Objective</u> ³⁹ A, B, D
-----------------------------------	------------------------	------------------------------	---

Allotment Management Plan Objectives:

Identified Resource Concerns

- Wilderness Study Areas: Stonehouse WSA, Lower Stonehouse WSA
- Riparian areas
- Water quality
- Special Status Species: Greater sage-grouse
- Noxious weeds
- Steens Mountain CMPA
- Recreation

Allotment Name: South Catlow	Allotment Number: 06041
------------------------------	-------------------------

³⁹ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	I	Public Land acres:	42,351	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented:	None	Private acres:	19,817	Deer	2
Season of Use:	wi	State acres:	0	Antelope	26
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMs:	2,069			Wild Horses	0
Suspended AUMs:	0	Total Acres:	62,168		
Total Permitted AUMs:	2069			Total	28

<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective</u> ⁴⁰
South Catlow	62,168	68	A, B

Allotment Management Plan Objectives:

Identified Resource Concerns

- Wilderness Study Areas: Basque Hills WSA, Rincon WSA
- Noxious weeds

Allotment Name: Basque Hills	Allotment Number: 06042
------------------------------	-------------------------

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	I	Public Land acres:	39,449	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	1996	Private acres:	0	Deer	5
Season of Use:	sp	State acres:	0	Antelope	2
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMs:	900			Wild Horses	0
Suspended AUMs:	0	Total Acres:	39,449		
Total Permitted AUMs:	900			Total	7

<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective</u> ⁴¹
Basque Hills	39,449	100	A, B

Allotment Management Plan Objectives:

- Improve and maintain upland vegetation.
- Improve and enhance habitat for wildlife species.
- Improve and enhance habitat for special status species.
- Maintain existing forage allocation for livestock and wildlife.
- Maintain and enhance primary wilderness values.

Identified Resource Concerns

- Special Status Species: Bighorn sheep, Greater sage-grouse
- Wilderness Study Area: Basque Hills WSA, Rincon WSA
- Noxious weeds

Allotment Name: Pueblo Slough

Allotment Number: 06043

⁴¹ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

DRAFT ANDREWS MANAGEMENT UNIT/STEENS MOUNTAIN COOPERATIVE MANAGEMENT
AND PROTECTION AREA RESOURCE MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT

Management Category: I	Public Land acres: 9,768	Other Forage Allocations (AUMs)
Yr AMP Implemented: 1996	Private acres: 7	Deer 2
Season of Use: wi	State acres: 0	Antelope 2
Yr S & G Assessment: None	Other Federal Acres: 0	Elk 0
Active AUMs: 1,400	Total Acres: 9,775	Wild Horses 0
Suspended AUMs: 0		Total 4
Total Permitted AUMs: 1,400		

Pasture/Area	Acres	% Public Domain	Objective ⁴²
Pueblo Slough #1	111	100	C, D
Pueblo Slough #2	84	100	C, D
N. Colony Winter	1,563	100	A, B
Colony Seeding	1,306	100	A, B
N. Sandhills Seeding	896	100	A, B
Colony Winter	5,815	100	A, B

Allotment Management Plan Objectives:

- Improve and maintain upland vegetation.
- Improve and maintain riparian vegetation.
- Improve and enhance habitat for wildlife species.
- Improve and enhance habitat for special status species.
- Maintain existing forage allocation for livestock and wildlife.

Identified Resource Concerns

- Special Status Species: Alvord Chub
- Noxious Weeds

Allotment Name: Lower Antelope	Allotment Number: 06044
--------------------------------	-------------------------

⁴² Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	I	Public Land acres:	5,867	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	1989	Private acres:	19	Deer	1
Season of Use:	wi	State acres:	0	Antelope	1
Yr S & G Assessment:	2000	Other Federal Acres:	0	Elk	0
Active AUMs:	500			Wild Horses	0
Suspended AUMs:	0	Total Acres:	5,886		
Total Permitted AUMs:	500			Total	2

<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective</u> ⁴³
Lower Antelope	5,886	100	A, B

Allotment Management Plan Objectives:

- Improve and maintain upland vegetation.
- Improve and enhance habitat for special status species.
- Maintain existing forage allocation for livestock and wildlife.

Identified Resource Concerns

- Special Status Species: Greater sage-grouse
- Noxious weeds

Allotment Name: Hammond FFR

Allotment Number: 06100

⁴³ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

DRAFT ANDREWS MANAGEMENT UNIT/STEENS MOUNTAIN COOPERATIVE MANAGEMENT
AND PROTECTION AREA RESOURCE MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT

Management Category:	C	Public Land acres:	1,158	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented:	None	Private acres:	6,145	Deer	0
Season of Use:	None	State acres:	13	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMs:	32	Total Acres:	7,316	Wild Horses	0
Suspended AUMs:	0			Total	0
Total Permitted AUMs:	32				

<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective⁴⁴</u>
Dust Bowl	2,557	0	E
Krumbo Springs	1,499	16	E
Webb Springs	1,258	48	E
Mud Creek	2,002	16	E

Allotment Management Plan Objectives:

Identified Resource Concerns

Allotment Name: Waldkirch FFR

Allotment Number: 06101

⁴⁴ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	C	Public Land acres:	27	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented:	None	Private acres:	324	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMs:	12	Total Acres:	351	Wild Horses	0
Suspended AUMs:	0			Total	0
Total Permitted AUMs:	12				

<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective</u> ⁴⁵
Red Point	351	8	E

Allotment Management Plan Objectives:

Identified Resource Concerns

Allotment Name: Oregon End FFR

Allotment Number: 06102

⁴⁵ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	C	Public Land acres:	1,656	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented:	None	Private acres:	841	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMs:	138			Wild Horses	0
Suspended AUMs:	0	Total Acres:	2,497		
Total Permitted AUMs:	138			Total	0

<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective</u> ⁴⁶
Rincon Reservoir	1,040	99	E
Oregon End Ranch	1,094	51	E
Roux Place	363	19	E

Identified Resource Concerns

Allotment Name: Wiley FFR	Allotment Number: 06103
---------------------------	-------------------------

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	C	Public Land acres:	29	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	1,145	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMs:	6	Total Acres:	1,174	Wild Horses	0
Suspended AUMs:	0			Total	0
Total Permitted AUMs:	6				

<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective</u> ⁴⁷
Wiley Base	1,174	2	E

Allotment Management Plan Objectives:

Identified Resource Concerns

Allotment Name: Defenbaugh FFR

Allotment Number: 06104

⁴⁷ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

DRAFT ANDREWS MANAGEMENT UNIT/STEENS MOUNTAIN COOPERATIVE MANAGEMENT
AND PROTECTION AREA RESOURCE MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT

Management Category:	C	Public Land acres:	1,276	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented:	None	Private acres:	2,655	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMs:	60	Total Acres:	3,931	Wild Horses	0
Suspended AUMs:	0			Total	0
Total Permitted AUMs:	60				
<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>		<u>Objective</u> ⁴⁸	
Trout Creek	2,509	44		E	
Whitehorse Road	1,422	12		E	

Allotment Management Plan Objectives:

Identified Resource Concerns

Allotment Name: Wrench Ranch FFR	Allotment Number: 06105
----------------------------------	-------------------------

⁴⁸ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	C	Public Land acres:	411	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented:	None	Private acres:	4,514	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMs:	51			Wild Horses	0
Suspended AUMs:	0	Total Acres:	4,925		
Total Permitted AUMs:	51			Total	0

<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective⁴⁹</u>
East Basin	1,882	7	E
Sherman Field	1,241	7	E
Ranch	1,636	8	E
Upper Holloway	166	26	E

Allotment Management Plan Objectives:

Identified Resource Concerns

Allotment Name: Orlando FFR

Allotment Number: 06106

⁴⁹ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

DRAFT ANDREWS MANAGEMENT UNIT/STEENS MOUNTAIN COOPERATIVE MANAGEMENT
AND PROTECTION AREA RESOURCE MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT

Management Category:	C	Public Land acres:	1,823	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented:	None	Private acres:	6,605	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMs:	320			Wild Horses	0
Suspended AUMs:	0	Total Acres:	8,428		
Total Permitted AUMs:	320			Total	0

<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective⁵⁰</u>
Smith Field	3,149	34	E
South Fork	356	56	E
Holloway Reservoir	661	4	E
Tum Tum	1,489	14	E
Ranch	1,712	4	E
Morris Base	874	22	E
Road	187	29	E

Allotment Management Plan Objectives:

Identified Resource Concerns

Allotment Name: Crump/Calderwood FFR

Allotment Number: 06107

⁵⁰ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	C	Public Land acres:	231	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	1,399	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMs:	12	Total Acres:	1,630	Wild Horses	0
Suspended AUMs:	0			Total	0
Total Permitted AUMs:	12				

Pasture/Area	Acres	% Public Domain	Objective ⁵¹
Crump Section	693	11	E
Trout Creek	810	16	E
Adrian Place	127	19	E

Allotment Management Plan Objectives:

Identified Resource Concerns

Allotment Name: Henricks FFR	Allotment Number: 06108
------------------------------	-------------------------

⁵¹ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

DRAFT ANDREWS MANAGEMENT UNIT/STEENS MOUNTAIN COOPERATIVE MANAGEMENT
AND PROTECTION AREA RESOURCE MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT

Management Category: C	Public Land acres: 131	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented: None	Private acres: 870	Deer	0
Season of Use: None	State acres: 0	Antelope	0
Yr S & G Assessment: None	Other Federal Acres: 0	Elk	0
Active AUMs: 30	Total Acres: 1,001	Wild Horses	0
Suspended AUMs: 0		Total	0
Total Permitted AUMs: 30			
<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective⁵²</u>
Ranch	800	12	E
Holloway Place	201	18	E

Allotment Management Plan Objectives:

Identified Resource Concerns

Allotment Name: Casey FFR

Allotment Number: 06109

⁵² Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	C	Public Land acres:	376	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented:	None	Private acres:	243	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMs:	21	Total Acres:	619	Wild Horses	0
Suspended AUMs:	0			Total	0
Total Permitted AUMs:	21				

<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective</u> ⁵³
Hamilton Place	619	61	E

Allotment Management Plan Objectives:

Identified Resource Concerns

Allotment Name: Still FFR

Allotment Number: 06110

⁵³ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

DRAFT ANDREWS MANAGEMENT UNIT/STEENS MOUNTAIN COOPERATIVE MANAGEMENT
AND PROTECTION AREA RESOURCE MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT

Management Category: C	Public Land acres: 321	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented: None	Private acres: 2,975	Deer	0
Season of Use: None	State acres: 0	Antelope	0
Yr S & G Assessment: None	Other Federal Acres: 0	Elk	0
Active AUMs: 68	Total Acres: 3,296	Wild Horses	0
Suspended AUMs: 0		Total	0
Total Permitted AUMs: 68			
<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective⁵⁴</u>
Catlow Place	1,361	14	E
Colony Ranch	1,744	5	E
Lower Roux Place	191	21	E

Allotment Management Plan Objectives:

Identified Resource Concerns

Allotment Name: Dunbar FFR

Allotment Number: 06111

⁵⁴ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

[illegible]

Allotment Name: Long Hollow FFR	Allotment Number: 06112
---------------------------------	-------------------------

⁵⁵ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	C	Public Land acres:	836	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented:	None	Private acres:	828	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMs:	103			Wild Horses	0
Suspended AUMs:	0	Total Acres:	1,664		
Total Permitted AUMs:	103			Total	0

<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective</u> ⁵⁶
South Long Hollow	1,664	50	E

Identified Resource Concerns

Management Category:	C	Public Land acres:	1,260	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented:	None	Private acres:	7,595	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMs:	148			Wild Horses	0
Suspended AUMs:	0	Total Acres:	8,855		
Total Permitted AUMs:	148			Total	0

Pasture/Area	Acres	% Public Domain	Objective ⁵⁷
North Catlow	6,575	7	E
Miller Homestead	1,396	24	E
Augustine Gilbert	447	41	E
Desert Field	437	64	E

Allotment Management Plan Objectives:

Identified Resource Concerns

Allotment Name: Dixon FFR

Allotment Number: 06115

⁵⁷ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

[illegible]

Allotment Name: Northrop FFR	Allotment Number: 06116
------------------------------	-------------------------

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	C	Public Land acres:	613	Other Forage Allocations (AUMs)	
Yr AMP Implemented:	None	Private acres:	1,985	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMs:	40	Total Acres:	2,598	Wild Horses	0
Suspended AUMs:	0			Total	0
Total Permitted AUMs:	40				

Pasture/Area	Acres	% Public Domain	Objective ⁵⁹
McDade Ranch	548	16	E
Calderwood	570	84	E
Pony Express	1,480	4	E

Allotment Management Plan Objectives:

Identified Resource Concerns

Allotment Name: Kaser FFR

Allotment Number: 06117

⁵⁹ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

DRAFT ANDREWS MANAGEMENT UNIT/STEENS MOUNTAIN COOPERATIVE MANAGEMENT
AND PROTECTION AREA RESOURCE MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT

[illegible]

Allotment Name: Luper FFR	Allotment Number: 06118
---------------------------	-------------------------

⁶⁰ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category: C	Public Land acres: 79	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented: None	Private acres: 131	Deer	0
Season of Use: None	State acres: 0	Antelope	0
Yr S & G Assessment: None	Other Federal Acres: 0	Elk	0
Active AUMs: 21	Total Acres: 210	Wild Horses	0
Suspended AUMs: 0		Total	0
Total Permitted AUMs: 21			

<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective⁶¹</u>
Lupher Place	210	38	E

Allotment Management Plan Objectives:

Identified Resource Concerns
Riparian area

Allotment Name: Pollock FFR	Allotment Number: 06119
-----------------------------	-------------------------

⁶¹ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

DRAFT ANDREWS MANAGEMENT UNIT/STEENS MOUNTAIN COOPERATIVE MANAGEMENT
AND PROTECTION AREA RESOURCE MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT

Management Category:	C	Public Land acres:	994	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented:	None	Private acres:	5,009	Deer	0
Season of Use:	None	State acres:	119	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMs:	19	Total Acres:	6,122	Wild Horses	0
Suspended AUMs:	0			Total	0
Total Permitted AUMs:	19				

<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective⁶²</u>
Juniper Ranch	2,756	24	E
Folly Farm	2,321	5	E
Tudor Lake	1,045	22	E

Allotment Management Plan Objectives:

Identified Resource Concerns

Allotment Name: Mann Lake FFR

Allotment Number: 06120

⁶² Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	C	Public Land acres:	1,629	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented:	None	Private acres:	26,456	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMs:	22			Wild Horses	0
Suspended AUMs:	0	Total Acres:	28,085		
Total Permitted AUMs:	22			Total	0

<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective⁶³</u>
Wilson	3,536	9	E
Big Pasture Creek	19,396	6	E
Pivot	5,153	2	E

Allotment Management Plan Objectives:

Identified Resource Concerns

Allotment Name: Neuschwander FFR

Allotment Number: 06121

⁶³ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	C	Public Land acres:	640	<u>Other Forage Allocations (AUMs)</u>
Yr AMP Implemented:	None	Private acres:	1,370	Deer 0
Season of Use:	None	State acres:	0	Antelope 0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk 0
Active AUMs:	43			Wild Horses 0
Suspended AUMs:	0	Total Acres:	2,010	
Total Permitted AUMs:	43			Total 0

<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective</u> ⁶⁴
Miller	2,010	32	E

Identified Resource Concerns

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category: C	Public Land acres: 194	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented: None	Private acres: 584	Deer	0
Season of Use: None	State acres: 0	Antelope	0
Yr S & G Assessment: None	Other Federal Acres: 0	Elk	0
Active AUMs: 9	Total Acres: 778	Wild Horses	0
Suspended AUMs: 0		Total	0
Total Permitted AUMs: 9			

<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective</u> ⁶⁵
Starr Place	778	25	E

Allotment Management Plan Objectives:

Identified Resource Concerns

Allotment Name: Culp FFR	Allotment Number: 06123
--------------------------	-------------------------

⁶⁵ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	C	Public Land acres:	183	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented:	None	Private acres:	3,591	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMs:	0			Wild Horses	0
Suspended AUMs:	0	Total Acres:	3,774		
Total Permitted AUMs:	0			Total	0

<u>Pasture/Area</u> Clover Swale	<u>Acres</u> 3,774	<u>% Public Domain</u> 5	<u>Objective</u> ⁶⁶ E
-------------------------------------	-----------------------	-----------------------------	-------------------------------------

Identified Resource Concerns

Allotment Name: Windmill FFR	Allotment Number: 06124
------------------------------	-------------------------

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	C	Public Land acres:	222	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented:	None	Private acres:	619	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMs:	15	Total Acres:	841	Wild Horses	0
Suspended AUMs:	0			Total	0
Total Permitted AUMs:	15				

<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective⁶⁷</u>
Windmill	841	26	E

Allotment Management Plan Objectives:

Identified Resource Concerns

Allotment Name: Roaring Springs FFR

Allotment Number: 06125

⁶⁷ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

DRAFT ANDREWS MANAGEMENT UNIT/STEENS MOUNTAIN COOPERATIVE MANAGEMENT
AND PROTECTION AREA RESOURCE MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT

Management Category:	C	Public Land acres:	6,400	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented:	None	Private acres:	195,674	Deer	0
Season of Use:	None	State acres:	658	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMs:	374			Wild Horses	0
Suspended AUMs:	0	Total Acres:	202,732		
Total Permitted AUMs:	374			Total	0

Pasture/Area	Acres	% Public Domain	Objective ⁶⁸
Roaring Springs	202,732	3	E

Allotment Management Plan Objectives:

Identified Resource Concerns

- Riparian areas
- Water Quality
- Special Status Species: Bighorn sheep
- Steens Mountain Wilderness
- Steens Mountain CMPA

Allotment Name: CM Otley FFR

Allotment Number: 06126

⁶⁸ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	C	Public Land acres:	907	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented:	None	Private acres:	13,173	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMs:	151			Wild Horses	0
Suspended AUMs:	0	Total Acres:	14,080		
Total Permitted AUMs:	151			Total	0

Pasture/Area	Acres	% Public Domain	Objective ⁶⁹
McCoy Creek	2,000	10	E
West Slope	10,145	6	E
Frazier Lake	1,935	4	E

Allotment Management Plan Objectives:

Identified Resource Concerns

- Riparian areas
- Water Quality

Allotment Name: Kueny FFR

Allotment Number: 06127

⁶⁹ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

DRAFT ANDREWS MANAGEMENT UNIT/STEENS MOUNTAIN COOPERATIVE MANAGEMENT
AND PROTECTION AREA RESOURCE MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT

Management Category: C	Public Land acres: 513	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented: None	Private acres: 11,206	Deer	0
Season of Use: None	State acres: 0	Antelope	0
Yr S & G Assessment: None	Other Federal Acres: 0	Elk	0
Active AUMs: 35		Wild Horses	0
Suspended AUMs: 0	Total Acres: 11,719	Total	0
Total Permitted AUMs: 35			

<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective</u> ⁷⁰
Ranch	10,329	3	E
Miranda Creek	1,390	14	E

Allotment Management Plan Objectives:

Identified Resource Concerns

Allotment Name: Konek FFR

Allotment Number: 06128

⁷⁰ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	C	Public Land acres:	80	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented:	None	Private acres:	285	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMs:	10			Wild Horses	0
Suspended AUMs:	0	Total Acres:	365		
Total Permitted AUMs:	10			Total	0

Pasture/Area	Acres	% Public Domain	Objective ⁷¹
Mormon Place	365	22	E

Allotment Management Plan Objectives:

Identified Resource Concerns

Allotment Name: Alvord FFR

Allotment Number: 06129

⁷¹ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

DRAFT ANDREWS MANAGEMENT UNIT/STEENS MOUNTAIN COOPERATIVE MANAGEMENT
AND PROTECTION AREA RESOURCE MANAGEMENT PLAN AND ENVIRONMENTAL IMPACT STATEMENT

Management Category:	C	Public Land acres:	299	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented:	None	Private acres:	17,978	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMs:	0			Wild Horses	0
Suspended AUMs:	0	Total Acres:	18,277		
Total Permitted AUMs:	0			Total	0

Pasture/Area	Acres	% Public Domain	Objective ⁷²
Alvord Ranch Meadows	17,663	1	E
Hot Springs	614	8	E

Allotment Management Plan Objectives:

Identified Resource Concerns

Allotment Name: Scharff FFR

Allotment Number: 06130

⁷² Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category: C	Public Land acres: 276	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented: None	Private acres: 4,761	Deer	0
Season of Use: None	State acres: 39	Antelope	0
Yr S & G Assessment: None	Other Federal Acres: 0	Elk	0
Active AUMs: 68	Total Acres: 5,076	Wild Horses	0
Suspended AUMs: 0		Total	0
Total Permitted AUMs: 68			

<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>	<u>Objective⁷³</u>
Scharff	5,076	5	E

Allotment Management Plan Objectives:

Identified Resource Concerns

Allotment Name: South Pocket FFR

Allotment Number: 06131

⁷³ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	C	Public Land acres:	145	<u>Other Forage Allocations (AUMs)</u>	
Yr AMP Implemented:	None	Private acres:	1	Deer	0
Season of Use:	None	State acres:	0	Antelope	0
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0
Active AUMs:	1			Wild Horses	0
Suspended AUMs:	0	Total Acres:	146		
Total Permitted AUMs:	1			Total	0

<u>Pasture/Area</u> South Pocket	<u>Acres</u> 146	<u>% Public Domain</u> 100	<u>Objective</u> ⁷⁴ E
-------------------------------------	---------------------	-------------------------------	-------------------------------------

Identified Resource Concerns

Allotment Name: Otley Brothers FFR	Allotment Number: 06133
------------------------------------	-------------------------

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Management Category:	C	Public Land acres:	313	<u>Other Forage Allocations (AUMs)</u>		
Yr AMP Implemented:	None	Private acres:	8,682	Deer	0	
Season of Use:	None	State acres:	0	Antelope	0	
Yr S & G Assessment:	None	Other Federal Acres:	0	Elk	0	
Active AUMs:	21	Total Acres:	8,995	Wild Horses	0	
Suspended AUMs:	0			Total	0	
Total Permitted AUMs:	21					
<u>Pasture/Area</u>	<u>Acres</u>	<u>% Public Domain</u>		<u>Objective</u> ⁷⁵		
Otley Brothers	8,995	3		E		
<u>Allotment Management Plan Objectives:</u>						
<u>Identified Resource Concerns</u>						

⁷⁵ Current allotment management objectives

- A) Improve the ecological condition of upland vegetation communities.
- B) Maintain the ecological condition of upland vegetation communities.
- C) Maintain the integrity of research plots and exclosures.
- D) Maintain/improve the condition of riparian vegetation communities.
- E) Pasture dominated by private land and managed custodial with no specified management objective.

Table I-2: Potential Range Improvement Projects

ALLOT #	ALLOTMENT NAME	TYPE OF IMPROVEMENT	UNITS
5309	Happy Valley	Juniper cutting	200 acres
5310	Riddle Mountain	Juniper cutting	600 acres
		Aspen fences	2 each
		Reservoir	1 each
		Prescribed burning	1,000 acres
5327	Jenkins B Flat FFR	None	
5329	Riddle/Coyote	Juniper cutting	300 acres
		Aspen fence	1 each
5331	Smyth-Kiger	Juniper cutting	1,000 acres
		Prescribed burning	1,300 acres
		Spring development	2 each
5604	Burnt Flat	Juniper cutting	400 acres
		Prescribed burning	4,000 acres
6001	North Catlow	Fence	16 miles
		Wells	4 each
		Reservoirs	3 each
		Pipeline	10 miles
6002	South Steens	Fence	5 miles
		Wells	1 each
		Spring developments	2 each
		Cattleguards	2 each
		Prescribed burning	6,000 acres
		Juniper cutting	3,000 acres
6005	Mud Creek	Reservoirs	3 each
		Prescribed burning	1,500 acres
		Fence	0.5 miles
6006	Frazier Field	Pipeline	1 mile
		Prescribed burning	1,200 acres
		Wells	2 each
6007	Ruby Springs	Pipeline	3 miles
		Reservoirs	2 each
		Prescribed burning	4,500 acres
		Juniper cutting	2,000 acres
6008	Krumbo	None	
6010	East Ridge	Spring developments	1 each
		Fence	2 miles
6011	Pollock	Fence	14 miles
		Reservoirs	2 each
		Wells	4 each
		Pipeline	8 miles
6012	Alvord	Reservoirs	3 each
		Pipeline	3 miles
		Fence	4 miles
		Prescribed burning	2,000 acres
		Brush control	2,000 acres
6014	Tum Tum	None	
6015	Trout Creek Mountain	Fence	5 miles
		Brush control	1,500 acres
6016	Sandhills	Spring development	2 each
		Fence	7 miles
6017	Grassy Basin	Pipeline	2 miles

ALLOT #	ALLOTMENT NAME	TYPE OF IMPROVEMENT	UNITS
		Spring development	1 each
6018	Tule Springs	Wells	1 each
6019	Serrano Point	Fence	4 miles
		Juniper cutting	500 acres
6020	Pueblo-Lone Mtn	Brush control	3,000 acres
6021	Pueblo Mountain	None	
6022	Kings River	None	
6023	Hammond	Fence	2 miles
		Wells	1 each
6024	South Fork	None	
6025	Hardie Summer	Fence	6 miles
		Juniper cutting	1,200 acres
6026	Mann Lake	Fence	5 miles
		Pipeline	2 miles
		Wells	2 each
6027	Carlson Creek	Prescribed burning	500 acres
		Juniper cutting	200 acres
6028	Fields	None	
6029	Keg Springs	Fence	16 miles
		Reservoirs	4 each
		Wells	2 each
		Pipeline	8 miles
6030	Reicken's Corner	Fence	2 miles
		Wells	2 each
		Pipeline	5 miles
6031	LaVoy Tables	Fence	6 miles
		Reservoirs	2 each
		Juniper cutting	1,000 acres
		Wells	2 each
6032	Krumbo Mountain	Fence	6 miles
		Reservoirs	4 each
		Juniper cutting	1,600 acres
6033	Chimney	Fence	6 miles
		Reservoirs	2 each
		Juniper cutting	1,000 acres
		Prescribed burning	2,000 acres
6035	Fields Basin	None	
6037	Bridge Creek	Fence	3 miles
		Reservoirs	2 each
		Juniper cutting	800 acres
		Spring Development	1 each
6038	Alvord Peak	Fence	2 miles
6040	Stonehouse	Reservoirs	2 each
		Fence	7 miles
		Cattleguards	2 each
		Spring developments	1 each
		Pipeline	3 miles
		Prescribed burning	1,500 acres
		Juniper cutting	1,000 acres
6041	South Catlow	Wells	1 each
		Pipeline	3 miles
6042	Basque Hills	Wells	1 each
6043	Pueblo Slough	None	
6044	Lower Antelope	None	

ALLOT #	ALLOTMENT NAME	TYPE OF IMPROVEMENT	UNITS
6100	Hammond FFR	None	
6101	Walckirch FFR	None	
6102	Oregon End FFR	None	
6103	Wiley FFR	None	
6104	Defenbaugh FFR	None	
6106	Orlando FFR	None	
6107	Calderwood FFR	None	
6108	Henricks FFR	None	
6109	Casey FFR	None	
6110	Still FFR	None	
6111	Dunbar FFR	None	
6112	Long Hollow FFR	None	
6114	Rock Creek FFR	None	
6115	Dixon FFR	None	
6116	Northrop FFR	None	
6117	Kaser FFR	None	
6118	Lupher FFR	None	
6119	Pollock FFR	None	
6120	Mann Lake FFR	None	
6121	Neuschwander FFR	None	
6122	Starr FFR	None	
6123	Clover Swale FFR	None	
6124	Windmill FFR	None	
6125	Roaring Springs FFR	None	
6126	McCoy Creek FFR	None	
6127	Kuney FFR	None	
6128	Konek FFR	None	
6129	Alvord FFR	None	
6130	Scharff FFR	None	
6131	South Pocket FFR	None	
6133	Otley Brothers FFR	None	

Appendix J - Land Tenure Adjustment Criteria and Legal Requirements

The Land Tenure Maps for the various alternatives depict three zones that identify public land with potential for land tenure adjustments (e.g., acquisition or disposal), consistent with existing regulations and BLM policy. Section 102(a)(1) of FLPMA provides that “. . . the public lands be retained in federal ownership unless as a result of the land use planning procedure provided for in this Act, it is determined that disposal of a particular parcel will serve the national interest . . .” In addition, Section 113(g) of the Steens Mountain Cooperative Management and Protection Act of 2000 provides additional limitations on disposals of land within the CMPA boundary by withdrawing “from all forms of entry, appropriation, or disposal under the public land laws, except in the case of land exchanges if the Secretary determines that the exchange furthers the purposes and objectives specified in Section 102”. General management guidelines for each zone are described below. Specific direction for each Zone is contained within the description of each alternative.

Zone 1: Retention/Acquisition (Includes Zone 1, 1A, and 1B)

Zone 1 land has been generally identified for retention in public ownership. These are also areas where emphasis will be placed on acquisition of land containing high resource values through such methods as exchange, purchase, donation, or public agency jurisdictional transfers. Zone 1 land may contain significant visual, wildlife, watershed, vegetative, cultural, and other resource values and are generally well blocked. Exchange, and, in some cases, sales of Zone 1 lands may be considered in some alternatives for community expansion, public purposes and to resolve long term inadvertent unauthorized use.

Zone 2: Exchange Zone (Includes Zones 2 and 2A)

Zone 2 land has been identified generally for retention but may be exchanged for lands in other zones (depending upon the alternative) for nonfederal land with high resource values. Zone 2 public land generally include well-blocked or fragmented BLM administered lands outside of Zone 1. Generally, Zone 2 lands possess relatively lower resource values than are present in Zone 1. These are areas where, dependent upon the alternative, exchanges, purchases, donations, or public agency jurisdictional transfers may be used to acquire non-public land containing high resource values and to create consolidated public land areas. Sales of Zone 2 lands may be considered in some alternatives for community expansion, public purposes and to resolve long term inadvertent unauthorized use.

Zone 3: Disposal

Zone 3 land generally has low or unknown resource values and meet the disposal criteria of Section 203 of FLPMA. This land is potentially suitable for disposal by such methods as public agency jurisdictional transfers, or state indemnity selection (state in lieu election), or “Recreation and Public Purpose Act” lease or patent, exchange or sale unless significant recreation, wildlife, watershed, special status species, cultural resources or other high resource values are identified as a result of site-specific analysis. This zone may include land needed for community expansion, small parcels located adjacent to private inholdings within and/or adjacent to large blocks of public land being retained by BLM, parcels on which unauthorized use exists, and land included within survey hiatus. Zone 3 land may be exchanged for land with greater resource values in Zones 1 and 2.

FLPMA and other federal laws, Executive Orders and policies suggest criteria for use in

categorizing public land for retention or disposal, and for identifying acquisition priorities. This list is not considered all inclusive, but represents the major factors to be evaluated. They include the following:

- wild horse HMAs
- threatened or endangered or sensitive plant and animals species habitat;
- areas containing scientific value, e.g., RNAs;
- riparian areas; wetlands; designated floodplains;
- fish habitat;
- nesting/breeding habitat for game animals;
- key big game seasonal habitat;
- developed recreation sites and recreation access;
- VRM;
- energy and mineral potential;
- significant cultural resources and sites eligible for inclusion on the National Register of Historic Places;
- wilderness and areas being studied for Wilderness;
- accessibility of the land for public uses;
- amount of public investments in facilities or improvements and the potential for recovering those investments;
- difficulty or cost of administration (manageability);
- suitability of the land for management by another federal agency;
- significance of the decision in stabilizing business, social and economic conditions, and/or lifestyles;
- whether private sites exist for the proposed use;
- encumbrances, including but not limited to withdrawals, or existing leases or permits;
- consistency with cooperative agreements and plans or policies of other agencies;
- suitability (need for change in landownership or use) for purposes including but not limited to community expansion or economic development, such as industrial, residential or agricultural (other than grazing development); and
- existing landownership patterns.

The criteria identified above will be among those considered in inventory, review and analyses prepared for specific land tenure adjustment proposals following plan implementation. Minor adjustments involving sales or exchanges or both may be permitted based on site-specific application of this adjustment criteria.

FLPMA provides that a tract of public land may be disposed of by exchange provided that the public interest will be well served by making that exchange. To be considered to be in the public interest, exchanges must:

- facilitate access to public land and resources, or
- maintain or enhance important public values and uses,
- maintain or enhance local social and economic conditions; and
- facilitate implementation of other goals and objectives of the RMP.

FLPMA also prescribes that the values and objectives which the federal lands may serve if retained in federal ownership are not more than the values of the nonfederal lands and the public objectives

they could serve if acquired. Further, the SMCMPA provides that exchanges of land within the CMPA must further the purposes and objectives of Sec. 102 of the Act.

Direct purchases of nonfederal lands may be used when the same public interest criteria apply as described under Land Exchanges above.

Public lands or tracts to be sold must meet the following disposal criteria stated in the FLPMA:

- such tract because of its location or other characteristics is difficult and uneconomic to manage as part of the public lands, and is not suitable for management by another federal department or agency; or
- such tract was acquired for a specific purpose and the tract is no longer required for that or any other federal purpose; or
- disposal of such tract will serve important public objectives, including but not limited to, expansion of communities and economic development, which cannot be achieved prudently or feasibly on land other than public land and which outweigh other public objectives and values, including, but not limited to, recreation and scenic values, which would be served by maintaining such tract in federal ownership.”

Generally, exchanges are the preferred method of disposal but sales will be utilized when:

- it is required by national policy; or
- it is required to achieve disposal objectives on a timely basis, and where disposal through exchange would cause unacceptable delays; or
- disposal through exchange is not feasible.

The preferred method of selling public land will be by competitive bidding at public auction to qualifying purchasers. However, modified competitive bidding procedures may be used when there is not legal public access to a tract, when necessary to avoid jeopardizing an existing use on adjacent land, or to avoid dislocation of existing public land users.

Public land may be sold by direct sale at fair market value when:

- such land is needed by state or local governments; or
- direct sale is needed to protect equities arising from authorized use; or
- direct sale is needed to protect equities resulting from inadvertent, unauthorized use; or
- there is only one adjacent landowner and no public access.

Current BLM Washington Office interpretation of the Land and Water Conservation Act prohibits the disposal of land acquired with Land and Water Conservation Funds by sale or exchange.

General priorities exist for implementing land disposal actions. These actions include, in priority order, the following:

- A. BLM and other federal jurisdictional transfers;
- B. transfers to state and local agencies (e.g., “Recreation and Public Purpose Act” patents, in-lieu selections, airport patents);
- C. state exchanges;
- D. private exchanges;

- E. sales;
- F. Indian allotments; and
- G. desert land entries

Site-specific environmental review and documentation in conformance with NEPA, including completion of categorical exclusions and plan conformance determinations where appropriate, will be accomplished for each proposed land program action. Interdisciplinary impact analysis will be tiered within the framework of this and other applicable environmental documents.

Appendix K - Areas of Critical Environmental Concern (ACECs) Descriptions

Alvord Desert ACEC (Existing and Potential Addition)

Description and values: The existing and potential Alvord Desert ACEC is located in the Alvord Valley, just east of the Alvord Desert playa, about 30 miles north of Fields, Oregon. The area is unfenced and covers 17,933 acres at the edge of a popular recreation use area in the Alvord Desert Playa. Many kinds of All-Terrain Vehicles (ATVs) are used on the dry lakebed, with some drifting onto the adjacent ACEC.

The relevant and important values associated with this ACEC are centered around an ecosystem containing a diversity of desert landforms and plant communities. Those values include sand dunes; bare playa; playa margins; and big sagebrush greasewood, spiny hopsage, and shadscale plant communities. An additional relevant and important value includes the high scenic quality of the area.

The area is located almost entirely within portions of the Alvord Desert (2-74) and East Alvord (2-73A) WSAs. WSAs are currently managed in accordance with the BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes a decision on wilderness designation. The area is also within the Alvord/Tule Springs HMA.

Some of the human-made developments existing in the ACEC include a bladed road and the remains of four wells, including troughs and windmills. The area is located within one grazing allotment and is withdrawn from mineral entry.

Alvord Peak ACEC (Existing)

Description and values: The Alvord Peak ACEC is located on the southern end of Steens Mountain about three miles north of Fields, Oregon. One parcel of private land totaling 80 acres is situated in the middle of the 15,015-acre ACEC.

The relevant and important values associated with this ACEC are the resident bighorn sheep and their habitat. The area was designated to protect and enhance bighorn sheep habitat and to protect the sheep from competition with wild horses for forage and water. Wild horses have since been removed from the ACEC, eliminating the threat. The dominant vegetation is big sagebrush/bunchgrass with large stands of bitterbrush.

The area is entirely within the Steens Mountain Wilderness and is managed under the direction provided by the Wilderness Act.

Some of the human-made developments include seven stock ponds, four spring developments with exclosures, two wildlife guzzlers, about 0.75 mile of water pipeline, about one mile of fence, and six miles of access and old mining roads. The area is located within the Alvord Peak grazing allotment. The area is withdrawn from mineral entry.

Borax Lake ACEC (Existing and Potential Addition)

Description and values: The Borax Lake ACEC is located in the Pueblo Valley, about six miles northeast of Fields, Oregon. Borax Lake itself is situated on private land owned by The Nature Conservancy in the middle of the ACEC.

The area was designated to protect the habitat of the federally endangered Borax Lake chub. The fish and its habitat are the relevant and important values for this area. Some parts of the ACEC support populations of the chub during the spring and summer, but most of the chub habitat is located on the private land in the center of the ACEC. The area also protects the diversity of plant and animal life inhabiting the area around Borax Lake.

The area is highly alkaline and supports vegetation that is highly salt tolerant such as greasewood, borax weed, saltgrass, and a variety of sedges and rushes in the wetter areas. Hot and cold springs can be found in the ACEC north of Borax Lake. A large reservoir, covering about 15 acres in the western part of the ACEC, is fed by overflow from Borax Lake. The reservoir contains some chubs during the summer and is an important nesting area for waterfowl.

The area is located within one grazing allotment. The ACEC is fenced, except for 120 acres on the east. About one mile of bladed road exists within the ACEC. The area receives substantial sightseer visitor use in the spring, summer, and fall, and waterfowl hunter use in the winter. The area is withdrawn from mineral entry.

East Kiger Plateau ACEC/RNA (Existing)

Description and values: The existing 1,216-acre East Kiger Plateau ACEC/RNA, located on the ridge that forms the east side of Kiger Gorge on Steens Mountain, consists of a ridgetop gently sloping to the north and steep slopes on both sides of the ridge.

Relevant and important values include a plant community type and a Special Status plant species. The area represents an excellent condition, high elevation fescue grassland, which is an important natural area cell need listed by the ONHP. This area has been determined to be one of the best examples of a high elevation fescue grassland in Oregon. One Special Status plant species known to occur on the plateau is Steens Mountain paintbrush.

A portion of the area is within the Steens Mountain ACEC. The ACEC/RNA is also located within the High Steens WSA (2-85F) and the Steens Mountain Wilderness.

There are no roads or other human-made developments within this natural area. The area is located within two grazing allotments, although no livestock graze the site due to topographic barriers. A small portion of the area is within the no livestock grazing area on Steens Mountain. The ACEC/RNA is withdrawn from mineral entry.

Little Blitzen ACEC/RNA (Existing and Potential Deletion)

Description and values: The existing Little Blitzen ACEC/RNA covers 2,530 acres on the top of Steens Mountain at the headwaters of the Little Blitzen River. The elevation ranges from 7,000 feet in Little Blitzen Gorge to 9,400 feet near the top of Steens Mountain.

Relevant and important values include plant community types and several Special Status plant species. The ACEC/RNA was designated to protect several terrestrial and aquatic ecosystems (cells) recognized by the ONHP as being the best examples of those cells in Oregon's Basin and Range Physiographic Province. The cells that were recognized within this natural area include a mid- to high-elevation vernal pond, a stream system originating in the subalpine, aspen grove, alpine communities on Steens Mountain including snow deflation and moderate snow cover communities, late-lying snowbeds, high-elevation fescue grassland, and rare plant communities. The rare plants occurring in this natural area include Steens Mountain paintbrush, moonwort, pinnate grapefern, lance-leaved grapefern, wedge-leaf saxifrage, Hayden's cymopterus, and moss gentian.

This entire ACEC/RNA is situated within the Steens Mountain Wilderness and is managed under direction provided by the Wilderness Act. A portion of the Oregon High Desert National Recreation Trail runs through the natural area.

The ACEC/RNA is located within the no livestock grazing area on Steens Mountain. The human-made developments within this ACEC/RNA include three miles of the Steens Mountain Loop Road and a memorial plaque. The area is withdrawn from mineral entry.

Little Wildhorse Lake ACEC/RNA (Existing)

Description and values: The existing 241-acre Little Wildhorse Lake ACEC/RNA is located on the highest elevations of Steens Mountain at the headwaters of Little Wildhorse Creek. The elevation ranges from 8,500 to 9,300 feet.

The relevant and important value for the ACEC/RNA is an aquatic ecosystem. The area fills a cell need for a pristine, mid- to high-elevation lake in the Basin and Range Physiographic Province as identified by the ONHP. The area also contains rims and upper-elevation plant communities in good to excellent condition.

This entire ACEC/RNA is located within the Steens Mountain Wilderness and is managed under the provisions of the Wilderness Act. It is also located within the Steens Mountain ACEC designated for scenic values.

This ACEC/RNA is located within the no livestock grazing area on Steens Mountain and is withdrawn from mineral entry.

Long Draw ACEC/RNA (Existing)

Description and values: The existing 441-acre ACEC/RNA is located in southwest Harney County about four miles from the Nevada border. The site is about two miles south of Lone Mountain and about three miles east of Hawk Mountain. The elevation at the site is 5,000 feet.

The relevant and important value for this area is a plant community type. The ACEC/RNA was designated to protect a unique terrestrial ecosystem (ONHP cell) containing Indian ricegrass and needle-and-thread in association with Wyoming big sagebrush. The drainages within the natural area contain the key elements or values of the ACEC/RNA, and the ridgetops are a Wyoming big sagebrush/bottlebrush squirreltail plant community.

The entire ACEC/RNA is located within portions of the Hawk Mountain (1-146A) and Rincon (2-82) WSAs. WSAs are currently managed in accordance with the BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes a decision on wilderness designation.

The one human-made development within this area is 0.5 mile of road. The ACEC/RNA is located within the Pueblo-Lone Mountain grazing allotment.

A portion of the existing ACEC/RNA has a high potential for the occurrence of epithermal-related gold/silver/mercury deposits. Little or no interest has been shown for any mineral resources in the area.

Mickey Basin ACEC/RNA (Existing)

Description and values: The existing 560-acre ACEC/RNA is located in the north end of the Alvord Valley about 35 miles north of Fields and about four miles north of the Alvord Desert. Approximately 191 acres of the 560 acres are fenced to exclude livestock and wild horses.

The relevant and important value includes a vegetation community type. The ACEC/RNA was designated to protect an ecosystem consisting of a winterfat plant community growing in a nearly pure stand on ash soils. This vegetation type is listed in the ONHP as a cell that is uncommon in the Basin and Range Physiographic Province and is in need of protection and recognition as a natural area.

The entire ACEC/RNA is located within the East Alvord (2-73A) and Winter Range (2-73H) WSAs. WSAs are currently managed in accordance with the BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes a decision on wilderness designation.

The human-made developments existing within this area include about one mile of fence and 0.75 mile of road. The ACEC/RNA is located within the Alvord grazing allotment. The area is also within the Alvord-Tule Springs HMA and is withdrawn from mineral entry.

Pickett Rim ACEC (Existing)

Description and values: The existing Pickett Rim 3,941-acre ACEC is situated around the large rim system about two miles west of Frenchglen, Oregon. The area is steep and rocky, with talus slopes, vertical rims, and benches.

Relevant and important values include birds of prey and their habitat. The area is designated to protect important nesting areas and habitat for many kinds of raptors such as hawks, eagles, and vultures.

The human-made developments existing in the ACEC are limited to about one mile of road. The ACEC is located within the LaVoy Tables grazing allotment.

This area has little or no potential for the occurrence of mineral resources.

Pueblo Foothills ACEC/RNA (Existing and Potential Deletion)

Description and values: The existing 2,503-acre Pueblo Foothills ACEC/RNA is located on the lowest reach of Cottonwood Creek, about seven miles south of Fields, Oregon. The elevation ranges from 4,400 to 5,700 feet.

Relevant and important values include a plant community type and Special Status plant species. The ACEC/RNA was designated to protect an ecosystem recognized by the ONHP as being the best example of a Mormon tea/narrowleaf cottonwood community complex in the Basin and Range Physiographic Province, if not in the State of Oregon. Several Special Status plant species that also occur in this unique ecosystem include narrowleaf cottonwood, large-flowered chaenactis, , naked-stemmed phacelia, ochre-flowered buckwheat and Malheur cryptantha.

This existing ACEC/RNA is situated entirely within the Pueblo Mountain WSA (2-81). WSAs are currently managed in accordance with the BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes a decision on wilderness designation.

The only human-made development is a small piece of the Arizona Creek Road. Two other roads that were within the area were blocked and rehabilitated due to lack of official use. This ACEC/RNA is located within the Pueblo-Lone Mountain grazing allotment.

The existing ACEC/RNA has a high potential for the occurrence of epithermal-related gold/silver/mercury deposits. A portion of the ACEC/RNA has a high potential for porphyry related deposits of gold, copper, or molybdenum. The area has a moderate potential for the occurrence of low sulfide gold deposits. The area has been heavily claimed in the past for locatables, but only a few claims exist in the area at the present time.

Rooster Comb ACEC/RNA (Existing and Potential Deletion)

Description and values: The existing 716-acre ACEC/RNA is located at the mouth of the Little Blitzen Gorge on Steens Mountain. The area encompasses both sides of the canyon and about 1.5 miles of the Little Blitzen River.

Relevant and important values include several vegetation community types. The ACEC/RNA was designated to protect a terrestrial and an aquatic ecosystem, both of which were determined to be the best examples of those ecosystems in the Basin and Range Physiographic Province. The ONHP cells represented in this natural area are a mountain mahogany/bluebunch wheatgrass community and a black cottonwood riparian community.

The entire ACEC/RNA is situated within the Steens Mountain Wilderness and is managed under the provisions of the Wilderness Act. A portion of the Oregon High Desert National Recreation Trail runs through the natural area.

Human-made developments within this ACEC/RNA include about 0.5 mile of road and about 11 miles of hiking trail. The area is located within the no livestock grazing area on Steens Mountain. The area is also withdrawn from mineral entry.

South Fork Willow Creek ACEC/RNA (Existing and Potential Deletion)

Description and values: The 231-acre existing South Fork Willow Creek ACEC/RNA is the upper part of a glacial cirque located on the east rim of Steens Mountain at the headwaters of the South Fork of Willow Creek. The natural area contains a wide variety of microhabitats including rock outcrops, ledges, and a series of three boggy terraces with pools, streams, and open shrubby areas. The East Rim Viewpoint lies just on the south edge of the natural area.

Relevant and important values for which the ACEC/RNA is designated include vegetation community types and Special Status plants. ONHP vegetation cells represented in the natural area include alpine communities on Steens Mountain and a stream system originating in a glacial cirque. The Special Status plants that occur within this natural area include Steens Mountain paintbrush, moonwort, pinnate grapefern, lance-leaved grapefern, Cusick's giant hyssop, moss gentian, and slender gentian.

The entire ACEC/RNA is located within the Steens Mountain Wilderness and is managed in accordance with the Wilderness Act.

The ACEC/RNA is located within the no livestock grazing area on Steens Mountain. Human-made developments within this ACEC/RNA include less than 0.25 mile of the Steens Mountain Loop Road and the East Rim Viewpoint.

The area is withdrawn from mineral entry.

Steens Mountain ACEC (Existing)

Description and values: The existing and Steens Mountain ACEC currently covers 56,501 acres and is located on the highest part of Steens Mountain about 80 miles south of Burns, Oregon. Included within the ACEC are the major topographic features that make the area a scenic attraction, such as the Little Blitzen Gorge, Big Indian Gorge, Kiger Gorge, Wildhorse Canyon, and the East Face. Other attractions include Wildhorse Lake, Little Wildhorse Lake, subalpine ecosystems, and pristine, high-gradient streams.

Relevant and important values include the high scenic values on Steens Mountain, including the craggy base of the Steens Escarpment, vista of the East Rim, and the glacial cirques and valleys. The area ranges from an elevation of 4,400 feet near the Alvord Desert to 9,730 feet at the top of the East Rim Viewpoint.

Several other special designations are included within the boundary of the ACEC including the Steens Mountain Wilderness and the High Steens WSA (2-85F).

Some of the human-made developments in the ACEC include about 20 miles of road, some of which is the Steens Mountain Loop Road, and about four miles of fence. The area is located within several grazing allotments and the no livestock grazing area on Steens Mountain..

Tum Tum Lake ACEC/RNA (Existing and Potential Deletion)

Description and values: The existing 2,064-acre Tum Tum Lake ACEC/RNA is located in Pueblo Valley about ten miles south of Fields, Oregon. The area includes Tum Tum Lake and the area north and east of the lake. The elevation is 4,100 feet.

The relevant and important values for which the ACEC/RNA was designated include vegetation community types, Special Status plant species, and a Special Status fish. The ONHP vegetation cells present at this site are low elevation alkaline lake and salt desert shrub plant communities. The three Special Status plants occurring on this site are iodinebush, salt heliotrope, and verrucose seapurslane, which are very salt tolerant species. The lake is also a valuable waterfowl rearing area as well as habitat for the Alvord chub, a Special Status fish species.

The area is located within the Pueblo-Lone Mountain grazing allotment, has two major utility corridors running through the norther part of it, and contains about two miles of road and one mile of fence.

The existing ACEC/RNA has a high potential for epithermal-related gold/silver/mercury deposits. A saleable minerals site is present in the northwest part of the area. The area has had mining claims in the past, but no claims are present now.

Big Alvord Creek ACEC/RNA (Potential)

Description and values: The potential Big Alvord Creek ACEC/RNA is located on the east face of Steens Mountain, about 30 miles south of Fields, Oregon. The area comprises most of the drainage of Big Alvord Creek, which flows into the Alvord Desert near the Alvord Ranch. The terrain is steep and rugged with elevations ranging from 5,400 to 9,200 feet.

Relevant and important values include several plant community types. The ONHP vegetation cells present on the site include a first- to third-order stream with a high gradient reach in a sagebrush zone, including intermittent streams with alder and dogwood; a big sagebrush/bluebunch wheatgrass plant community; and a black cottonwood riparian community.

The area is entirely within the Steens Mountain ACEC and the Steens Mountain Wilderness.

The area is also within the no livestock grazing area on Steens Mountain. There are no roads within the potential ACEC/RNA, and the area is withdrawn from mineral entry.

Catlow Redband Trout ACEC (Potential)

Description and values: The potential Catlow Redband Trout ACEC is located in the southern Steens Mountain foothills on the Home and Threemile Creek watersheds. This area is about 20 miles south of Frenchglen, Oregon.

Relevant and important values include Special Status fish species and habitat. Home and Threemile Creeks are habitat for the Catlow Valley redband trout and the Catlow tui chub. This area would be designated to protect the fish and habitat.

The area is within the Steens Mountain Wilderness and is managed in accordance with the Wilderness Act.

The area is located within the South Steens grazing allotment, and is withdrawn from mineral entry.

East Fork Trout Creek ACEC/RNA (Potential)

Description and values: The potential East Fork Trout Creek ACEC/RNA is located in the Trout Creek Mountains, about 25 miles southeast of Fields, Oregon. The area includes part of the headwaters of the East Fork of Big Trout Creek and contains several unique ecosystems. The elevation of the area is from 7,400 to 8,000 feet.

The relevant and important values include several plant community types. The ONHP vegetation cells that would be represented in this area include a riparian community dominated by quaking aspen and Scouler willow, a high-elevation wet meadow dominated by sedges, and a first- to third-order stream system originating in the subalpine zone.

The potential ACEC/RNA is located entirely within the Mahogany Ridge WSA (2-77), and is currently managed in accordance with the BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes a decision on wilderness designation.

The area is also located within the Trout Creek Mountain grazing allotment. Approximately 0.5 mile of road is located in the northeast quarter of the area.

The proposed ACEC/RNA has high potential for the occurrence of epithermal-related gold/mercury deposits. No mining claims or interest in mining has been observed in the area.

Fir Groves ACEC (Potential)

Description and values: The potential Fir Groves ACEC is located two miles north of the North Loop Road on Steens Mountain on Little Fir and Fence Creeks. The area is about 12 miles east of Frenchglen, Oregon.

The relevant and important value is a unique plant community type. The ONHP vegetation cell that is represented on the site is a grand fir forest on Steens Mountain. The potential ACEC consists of two separate parcels, one parcel containing an old growth stand of trees and one containing a mix of old and young trees. This area is one of the last places on Steens Mountain containing grand fir.

One of the potential ACEC parcels is within the Bridge Creek grazing allotment and the other is within a fenced federal grazing allotment composed mostly of private land.

The proposed ACEC is withdrawn from mineral entry.

Mickey Hot Springs ACEC (Potential)

Description and values: The potential Mickey Hot Springs ACEC is located in the Alvord Valley about five miles north of the Alvord Desert and about 35 miles north of Fields, Oregon.

Relevant and important values include hot springs and associated hazards. The site supports a hot springs complex containing about 50 active and inactive vents, including a mud pot, hot pools, and cool pools. The area is geologically unique and an attraction for sightseers. It is also potentially hazardous because the water is near boiling. The entire area is currently fenced to keep livestock, wild horses, and vehicles out of the hazard area.

The potential ACEC is located entirely within the East Alvord WSA (2-73A), which is currently managed in accordance with the BLM's IMP. Under this direction, surface-disturbing activities requiring reclamation are generally precluded from the WSAs until Congress makes a decision on wilderness designation.

The area is surrounded by the Alvord-Tule Springs HMA. The area is part of the Alvord grazing allotment, and is withdrawn from mineral entry.

Serrano Point ACEC/RNA (Potential)

Description and values: The potential Serrano Point ACEC/RNA is located in southern Harney County, about two miles east of Andrews. The elevation of the area is 4,100 feet.

Relevant and important values include several vegetation community types. The ONHP vegetation cells that are present on this site include a playa with greasewood and basin wildrye, big sagebrush/greasewood communities, and greasewood/shadscale/bunchgrass playa margin communities. The wildrye communities are some of the best sites for that species in the Basin and Range Physiographic Province. Wildrye grows with greasewood, sagebrush, and by itself in the area in plant communities that are naturally lacking in species diversity.

The potential ACEC/RNA is located within the Tule Springs grazing allotment. A portion of the Oregon High Desert National Recreation Trail runs through the area.

The proposed ACEC/RNA is in an area withdrawn from mineral entry.

This Page Intentionally Left Blank

Appendix L - Common and Scientific Names for Plants and Animals

Common Name	Scientific Name
PLANT SPECIES	
<i>Forbs</i>	
Alvord milkvetch	<i>Astragalus alvordensis</i>
American bistort	<i>Polygonum bistortoides</i>
aster	<i>Aster spp.</i>
balloon-pod milkvetch	<i>Astragalus whitneyi</i>
balsamroot	<i>Balsamorhiza spp.</i>
bedstraw	<i>Galium spp.</i>
Biddle's lupine	<i>Lupinus biddlei</i>
Bigelow's four-o'clock	<i>Mirabilis bigelovii v. retrorsa</i>
bindweed	<i>Convolvulus arvensis</i>
biscuitroot	<i>Lomatium spp.</i>
bitterroot	<i>Lewisia rediviva</i>
black henbane	<i>Hyoscyamus niger</i>
buckwheat	<i>Eriogonum spp.</i>
bull thistle	<i>Cirsium vulgare</i>
burr buttercup	<i>Ranunculus testiculatus</i>
buttercup	<i>Ranunculus spp.</i>
butterweed	<i>Senecio spp.</i>
camas	<i>Camassia quamash</i>
Canada thistle	<i>Cirsium arvense</i>
cattail	<i>Typha latifolia</i>
cinquefoil	<i>Potentilla spp.</i>
clasping peppergrass	<i>Lepidium perfoliatum</i>
Cusick's draba	<i>Draba sphaeroides v. cusickii</i>
Cusick's hyssop	<i>Agastache cusickii</i>
cut-leaf daisy	<i>Erigeron compositus</i>
dalmation toadflax	<i>Linaria dalmatica</i>
Davidson's penstemon	<i>Penstemon davidsonii v. praeteritus</i>
Davis' peppergrass	<i>Lepidium davisii</i>
desert chaenactis	<i>Chaenactis xantiana</i>
diffuse knapweed	<i>Centaurea diffusa</i>
discoïd goldenweed	<i>Ericameria discoidea v. discoidea</i>
dwarf evening primrose	<i>Camissonia pygmaea</i>
elephant's head	<i>Pedicularis spp.</i>
ephemeral monkey flower	<i>Mimulus evanescens</i>
filaree	<i>Erodium cicutarium</i>
flowering quillwort	<i>Lilaea scilloides</i>
fourwing milkvetch	<i>Astragalus tetrapterus</i>
geranium	<i>Geranium viscosissimum</i>
gray moonwort	<i>Botrychium minganense</i>
hairy wild cabbage	<i>Caulanthus pilosus</i>
halogeton	<i>Halogeton glomeratus</i>

Common Name	Scientific Name
Hayden's cymopterus	<i>Cymopterus nivalis</i>
hedgehog cactus	<i>Pediocactus simpsonii v. robustior</i>
Indian carrot	<i>Perideridia spp.</i>
iodine bush	<i>Allenrolfea occidentalis</i>
Janish's penstemon	<i>Penstemon janishiae</i>
Kruckeberg's holly fern	<i>Polystichum kruckebergii</i>
lance-leaved grapefern	<i>Botrychium lanceolatum</i>
large-flowered chaenactis	<i>Chaenactis macrantha</i>
leafy spurge	<i>Euphorbia esula</i>
lomatium	<i>Lomatium spp.</i>
lupine	<i>Lupinus spp.</i>
lyrate malacothrix	<i>Malacothrix sonchoides</i>
Malheur cryptantha	<i>Cryptantha propria</i>
meadow rue	<i>Thalictrum spp.</i>
Mediterranean sage	<i>Salvia aethiopis</i>
milkvetch	<i>Astragalus spp.</i>
monkeyflower	<i>Mimulus spp.</i>
montane pepperwort	<i>Lepidium montanum v. nevadense</i>
moonwort	<i>Botrychium lunaria</i>
moss gentain	<i>Gentiana prostrata</i>
musk thistle	<i>Carduus nutans</i>
naked-stemmed phacelia	<i>Phacelia gymnoclada</i>
ochre-headed buckwheat	<i>Eriogonum ochrocephalum s. calcareum</i>
onion	<i>Allium spp.</i>
pale paintbrush	<i>Castilleja pallescens v. inverta</i>
peavine	<i>Lathyrus spp.</i>
perennial pepperweed	<i>Lepidium latifolium</i>
phacelia	<i>Phacelia spp.</i>
phlox	<i>Phlox spp.</i>
pinnate grapefern	<i>Botrychium pinnatum</i>
prairie sandwort	<i>Arenaria aculeata</i>
prickly poppy	<i>Argemone munita s. rotundata</i>
puncturevine	<i>Tribulus terrestris</i>
purple loosestrife	<i>Lythrum salicaria</i>
purple cymopterus	<i>Cymopterus purpurascens</i>
pussytoes	<i>Antennaria spp.</i>
Rafinesque's pondweed	<i>Potamogeton diversifolius</i>
Raven's lomatium	<i>Lomatium ravenii</i>
Rocky Mtn. helianthella	<i>Helianthella uniflora v. uniflora</i>
rush skeletonweed	<i>Chondrilla juncea</i>
Russian knapweed	<i>Acroptilon repens</i>
salt heliotrope	<i>Heliotropium curassavicum</i>
scotch broom	<i>Cytisus scoparius</i>
scotch thistle	<i>Onopordum acanthium</i>
short-lobed penstemon	<i>Penstemon seorsus</i>

Common Name	Scientific Name
Siberian water-milfoil	<i>Myriophyllum sibiricum</i>
Sierran springbeauty	<i>Claytonia nevadensis</i>
sky pilot	<i>Polemonium viscosum</i>
slender gentian	<i>Gentianella tenella</i>
slender wild cabbage	<i>Caulanthus major v. nevadensis</i>
speedwell	<i>Veronica spp.</i>
spotted knapweed	<i>Centaurea maculosa</i>
squarrose knapweed	<i>Centaurea virgata</i>
St. John's wort	<i>Hypericum perforatum</i>
Steens Mountain paintbrush	<i>Castilleja pilosa v. steenensis</i>
sulfur-flowered buckwheat	<i>Eriogonum umbellatum</i>
sumac	<i>Rhus spp.</i>
sweet cicely	<i>Osmorhiza occidentalis</i>
tansy ragwort	<i>Senecio jacobaea</i>
thick-stemmed wild cabbage	<i>Caulanthus crassicaulis</i>
Torrey's malacothrix	<i>Malacothrix torreyi</i>
tumble mustard	<i>Sisymbrium altissimum</i>
tumble weed	<i>Salsola tragus</i>
two-stemmed onion	<i>Allium bisceptrum</i>
umbellate springbeauty	<i>Claytonia umbellata</i>
verrucose seapurslane	<i>Sesuvium verrucosum</i>
weak-stemmed stonecrop	<i>Sedum debile</i>
wedge-leaf saxifrage	<i>Saxifraga adscendens v. oregonensis</i>
white-flowered penstemon	<i>Penstemon pratensis</i>
whitetop	<i>Cardaria draba</i>
yarrow	<i>Achillea millefolium</i>
yellow toadflax	<i>Linaria vulgaris</i>
yellow starthistle	<i>Centaurea solstitialis</i>
Grasses and grasslikes	
alpine fescue	<i>Festuca brachyphylla</i>
awned sedge	<i>Carex atherodes</i>
Back's sedge	<i>Carex backii</i>
basin wildrye	<i>Leymus cinereus</i>
Bellard's kobresia	<i>Kobresia bellardii</i>
bluebunch wheatgrass	<i>Pseudoroegneria spicata</i>
bottlebrush squirreltail	<i>Elymus elymoides</i>
capitate sedge	<i>Carex capitata</i>
cheatgrass	<i>Bromus tectorum</i>
crested wheatgrass	<i>Agropyron cristatum</i>
dark alpine sedge	<i>Carex subnigricans</i>
desert needlegrass	<i>Achnatherum speciosum</i>
foetid sedge	<i>Carex foetida v. vernacular</i>
hairstemmed rush	<i>Juncus capillaris</i>
Hayden's sedge	<i>Carex haydeniana</i>
Idaho fescue	<i>Festuca idahoensis</i>
Indian ricegrass	<i>Achnatherum hymenoides</i>

Common Name	Scientific Name
June grass	<i>Koeleria macrantha</i>
least rush	<i>Juncus hemiendytus v. abjectus</i>
Lemmon's needlegrass	<i>Achnatherum lemmonii</i>
medusahead rye	<i>Taeniatherum caput-medusae</i>
mosslike dwarf rush	<i>Juncus bryoides</i>
mountain brome	<i>Bromus carinatus</i>
needle and thread needlegrass	<i>Hesperostipa comata</i>
Nevada bluegrass	<i>Poa nevadensis</i>
new sedge	<i>Carex nova</i>
nodding melic	<i>Melica stricta</i>
redtop	<i>Agrostis spp.</i>
rush	<i>Juncus spp.</i>
saltgrass	<i>Distichlis spicata</i>
Sandberg's bluegrass	<i>Poa secunda</i>
sedge	<i>Carex spp.</i>
sheep fescue	<i>Festuca ovina</i>
teacher's sedge	<i>Carex praeceptorum</i>
Thurber's needlegrass	<i>Achnatherum thurberiana</i>
Tiehm's rush	<i>Juncus tiehmii</i>
tufted hairgrass	<i>Deschampsia cespitosa</i>
western needlegrass	<i>Achnatherum occidentale</i>
<i>Shrubs and Trees</i>	
barberry	<i>Mahonia reticulata</i>
basin big sagebrush	<i>Artemisia tridentata s. tridentata</i>
big sagebrush	<i>Artemisia tridentata</i>
bitter cherry	<i>Prunus emarginata</i>
bitterbrush	<i>Purshia tridentata</i>
black greasewood	<i>Sarcobatus vermiculatus</i>
black sagebrush	<i>Artemisia nova</i>
black cottonwood	<i>Populus trichocarpa</i>
buckbrush	<i>Ceanothus spp.</i>
bud sage	<i>Artemisia spinescens</i>
chokecherry	<i>Prunus virginiana</i>
currant	<i>Ribes spp.</i>
dogwood	<i>Cornus stolonifera</i>
Douglas fir	<i>Pseudotsuga menziesii</i>
elderberry	<i>Sambucus mexicana</i>
fourwing saltbush	<i>Atriplex canescens</i>
grand fir	<i>Abies grandis</i>
gray rabbitbrush	<i>Ericameria nauseosus</i>
green rabbitbrush	<i>Ericameria viscidiflorus</i>
hornbeam	<i>Carpinus grandis</i>
horsebrush	<i>Tetradymia spp.</i>
indigo bush	<i>Amorpha condoni</i>
low sagebrush	<i>Artemisia arbuscula</i>

Common Name	Scientific Name
madrone	<i>Arbutus spp.</i>
maple	<i>Acer spp.</i>
mountain ash	<i>Sorbus harneyensis</i>
mountain alder	<i>Alnus incana</i>
mountain mahogany	<i>Cercocarpus ledifolius</i>
mountain big sagebrush	<i>Artemisia tridentata s. vaseyana</i>
narrowleaf cottonwood	<i>Populus angustifolia</i>
ocean spray	<i>Holodiscus dumosus</i>
Oregon grape	<i>Berberis repens</i>
pine	<i>Pinus spp.</i>
quaking aspen	<i>Populus tremuloides</i>
rose	<i>Rosa woodsii</i>
salt cedar	<i>Tamarix ramosissima</i>
serviceberry	<i>Amelanchier utahensis</i>
shadscale	<i>Atriplex confertifolia</i>
silver sagebrush	<i>Artemisia cana</i>
snowberry	<i>Symphoricarpos rotundifolius</i>
spiny hopsage	<i>Grayia spinosa</i>
spruce	<i>Picea spp.</i>
true fir	<i>Abies spp.</i>
wax currant	<i>Ribes cereum</i>
western juniper	<i>Juniperus occidentalis</i>
willow	<i>Salix spp.</i>
winterfat	<i>Ceratoides lanata</i>
Wyoming big sagebrush	<i>Artemisia tridentata s. wyomingensis</i>
ANIMAL SPECIES	
<i>Amphibians</i>	
Columbia spotted frog	<i>Rana luteiventris</i>
western toad	<i>Bufo boreas</i>
<i>Birds</i>	
American kestrel	<i>Falco sparverius</i>
American white pelican	<i>Pelecanus erythrorhynchos</i>
bank swallow	<i>Riparia riparia</i>
black rosy finch	<i>Leucosticte atrata</i>
black tern	<i>Chlidonias niger</i>
black-throated sparrow	<i>Amphispiza bilineata</i>
bobolink	<i>Dolichonyx oryzivorus</i>
broad-tailed hummingbird	<i>Selasphorus platycercus</i>
Cooper's hawk	<i>Accipiter cooperii</i>
ferruginous hawk	<i>Buteo regalis</i>
flamulated owl	<i>Otus flammeolus</i>
Forster's tern	<i>Sterna forsteri</i>
Franklin's gull	<i>Larus pipixcan</i>
golden eagle	<i>Aquila chrysaetos</i>
great egret	<i>Casmerodius albus</i>
Greater sage-grouse	<i>Centrocercus urophasianus</i>

Common Name	Scientific Name
greater sandhill crane	<i>Grus canadensis ssp.</i>
horned grebe	<i>Podiceps auritus</i>
least bittern	<i>Ixobrychus exilis</i>
long-eared owl	<i>Asio otus</i>
loggerhead shrike	<i>Lanius ludovicianus</i>
mountain quail	<i>Oreortyx pictus</i>
northern bald eagle	<i>Haliaeetus leucocephalus</i>
northern goshawk	<i>Accipiter gentilis</i>
northern harrier	<i>Circus cyaneus</i>
olive-sided flycatcher	<i>Contopus cooperi</i>
peregrine falcon	<i>Falco peregrinus ssp.</i>
pinon jay	<i>Gymnorhinus cyancephalus</i>
prairie falcon	<i>Falco mexicanus</i>
red-tailed hawk	<i>Buteo jamaicensis</i>
rough-legged hawk	<i>Buteo lagopus</i>
sage sparrow	<i>Amphispiza belli</i>
sharp-shinned hawk	<i>Accipiter striatus</i>
snowy egret	<i>Egretta thula</i>
Swainson's hawk	<i>Buteo swainsoni</i>
western burrowing owl	<i>Athene cunicularia</i>
western snowy plover (inland)	<i>Charadrius alexandrinus</i>
white-faced ibis	<i>Plegadis chihi</i>
willow flycatcher	<i>Empidonax traillii adastus</i>
yellow-billed cuckoo	<i>Coccyzus americanus</i>
Fish	
Alvord chub	<i>Gila alvordensis</i>
Borax Lake chub	<i>Gila boraxobius</i>
bridgelip sucker	<i>Catostomus columbianus</i>
brook trout	<i>Salvelinus fontinalis</i>
Catlow Valley tui chub	<i>Gila bicolor ssp.</i>
crappie	<i>Pomoxis sp.</i>
Great Basin redband trout	<i>Oncorhynchus mykiss ssp.</i>
guppy	<i>Poecilia reticulata</i>
Lahontan cutthroat trout	<i>Oncorhynchus clark henshawi</i>
long-nosed dace	<i>Rhinichthys cataractae</i>
largescale sucker	<i>Catostomus macrocheilus</i>
Malheur mottled sculpin	<i>Cottus bairdi ssp.</i>
mountain whitefish	<i>Prosopium williamsoni</i>
rainbow trout (generic)	<i>Oncorhynchus mykiss</i>
redside shiner	<i>Richardsonium columbianus</i>
speckled dace	<i>Rhinichthys osculus</i>
Mammals	
California bighorn sheep	<i>Ovis canadensis ssp.</i>
California wolverine	<i>Gulo gulo</i>
Canada lynx	<i>Lynx canadensis</i>

Common Name	Scientific Name
fringed myotis	<i>Myotis thysanodes</i>
gray wolf	<i>Canis lupus</i>
kit fox	<i>Vulpes velox</i>
long-eared myotis	<i>Myotis evotis</i>
long-legged myotis	<i>Myotis volans</i>
mountain lion (cougar)	<i>Puma concolor</i>
mule deer	<i>Odocoileus hemionus hemionus</i>
pallid bat	<i>Antrozous pallidus</i>
Preble's shrew	<i>Sorex preblei</i>
pronghorn antelope	<i>Antilocapra americana</i>
pygmy rabbit	<i>Brachylagus idahoensis</i>
Rocky Mountain elk	<i>Cervus elaphus</i>
silver-haired bat	<i>Lasionycteris noctivagans</i>
spotted bat	<i>Euderma maculatum</i>
Townsend's big-eared bat	<i>Corynorhinus townsendii</i>
western small-footed myotis	<i>Myotis ciliolabrum</i>
white-tailed antelope ground squirrel	<i>Ammospermophilus leucurus</i>
white-tailed jackrabbit	<i>Lepus townsendii</i>
Yuma myotis	<i>Myotis yumanensis</i>
Reptiles	
desert horned lizard	<i>Phrynosoma platyrhinos</i>
long-nosed leopard lizard	<i>Gambelia wislizenii</i>
Mojave black-collared lizard	<i>Crotophytus bicinctores</i>
northern sagebrush lizard	<i>Sceloporus graciosus</i>
Animal Fossil Remains	
beaver	<i>Dipoides, Castor</i>
camel, small and large	<i>Pliauchenia, Procamelus</i>
cat, saber-tooth	<i>Machairodus</i>
horse	<i>Hipparion, Pliohippus</i>
mammoth	
mastodon	<i>Mammut</i>
peccary	<i>Prosthennops</i>
rhinoceros	<i>Teleoceras</i>
rodent, horned	<i>Mylaganlus</i>
sloth, giant turtle	Megalonychidae (Family)

This Page Intentionally Left Blank

Appendix M - Transportation

This appendix serves to support the CMPA Transportation Plan by identifying transportation and road system BMPs and providing a glossary of terms typically used with transportation management systems. This information is derived primarily from the Draft Washington and Eastern Oregon Districts Transportation Management Plan (DTMP) and incorporates the DTMP by reference. While the DTMP remains subordinate in direction to the RMP/EIS, it remains a valuable reference in providing guidance to the CMPA Transportation Plan.

BEST MANAGEMENT PRACTICES

- 1) Design roads to minimize total disturbance, to conform with topography, and to minimize disruption of natural drainage patterns.
- 2) Base road design criteria and standards on road management objectives such as traffic requirements of the proposed activity and the overall transportation plan, economic analysis, safety requirements, resource objectives, and minimizing damage to the environment.
- 3) Locate roads on stable terrain such as ridge tops, natural benches, and flatter transitional slopes near ridges and valley bottoms and moderate sideslopes and away from slumps, slide prone areas, concave slopes, clay beds, and where rock layers dip parallel to the slope. Locate roads on well-drained soil types; avoid wet areas.
- 4) Construct cut and fill slopes to be approximately 3(h):1(v) or flatter where feasible. Locate roads to minimize heights of cutbanks. Avoid high, steeply sloping cutbanks in highly fractured bedrock.
- 5) Avoid head walls, midslope locations on steep, unstable slopes, fragile soils, seeps, old landslides, sideslopes in excess of 70 percent, and areas where the geologic bedding planes or weathering surfaces are inclined with the slope. Implement extra mitigation measures when these areas can not be avoided.
- 6) Construct roads for surface drainage by using outslopes, crowns, grade changes, drain dips, waterbars and/or insloping to ditches as appropriate.
- 7) Sloping the road base to the outside edge for surface drainage is normally recommended for local spurs or minor collector roads where low volume traffic and lower traffic speeds are anticipated. This is also recommended in situations where long intervals between maintenance will occur and where minimum excavation is wanted. Out-sloping is not recommended on steep slopes. Sloping the road base to the inside edge is an acceptable practice on roads with steep sideslopes and where the underlying soil formation is very rocky and not subject to appreciable erosion or failure.
- 8) Crown and ditching is recommended for arterial and collector roads where traffic volume, speed, intensity and user comfort are considerations. Recommended gradients range from 0 to 15 percent where crown and ditching may be applied, as long as adequate drainage away from the road surface and ditch lines is maintained.
- 9) Minimize excavation, when constructing roads, through the use of balanced earthwork, narrowing road widths, and end hauling where sideslopes are between 50 and 70 percent.
- 10) If possible, construct roads when soils are dry and not frozen. When soils or road surfaces become saturated to a depth of 3 inches, BLM-authorized activities should be limited or ceased unless otherwise approved by the authorized officer.
- 11) Consider improving inadequately surfaced roads, that are to be left open to public traffic during wet weather with gravel or pavement to minimize sediment production and maximize safety.
- 12) Retain vegetation on cut slopes unless it poses a safety hazard or restricts maintenance activities. Roadside brushing of vegetation should be done in a way that prevents disturbance to root systems and visual intrusions (i.e., avoid using excavators for brushing).
- 13) Retain adequate vegetation between roads and streams to filter runoff caused by roads.
- 14) Avoid riparian/wetland areas where feasible; locate in these areas only if the roads do not interfere with the attainment of PFC and RMOs.

- 15) Minimize the number of unimproved stream crossings. When a culvert or bridge is not feasible, locate drive-through (low water crossings) on stable rock portions of the drainage channel. Harden crossings with the addition of rock and gravel if necessary. Use angular rock if available.
- 16) Locate roads and limit activities of mechanized equipment within stream channels to minimize their influence on riparian areas. When stream crossing is necessary, design the approach and crossing perpendicular to the channel where practical. Locate the crossing where the channel is well-defined, unobstructed, and straight.
- 17) Avoid placing fill material in floodplain unless the material is large enough to remain in place during flood events.
- 18) Use drainage dips instead of culverts on roads where gradients would not present a safety issue. Locate drainage dips in such a way so water would not accumulate or where outside berms prevent drainage from the roadway. Locate and design drainage dips immediately upgrade of stream crossings and provide buffer areas and catchment basins to prevent sediment from entering the stream.
- 19) Construct catchment basins, brush windrows, and culverts in a way to minimize sediment transport from road surfaces to stream channels. Install culverts in natural drainage channels in a way to conform with the natural streambed gradients with outlets that discharge onto rocky or hardened protected areas.
- 20) Design and locate water crossing structures in natural drainage channels to accommodate adequate fish passage, provide for minimum impacts to water quality and capable of handling a 100-year event for runoff and floodwaters.
- 21) Use culverts that pass, at a minimum, a 50-year storm event and/or have a minimum diameter of 24 inches for permanent stream crossings and a minimum diameter of 18 inches for road crossdrains.
- 22) Replace undersized culverts and repair or replace damaged culverts and down spouts. Provide energy dissipators at culvert outlets or drainage dips.
- 23) Locate culverts or drainage dips in such a manner as to avoid discharge onto unstable terrain such as head walls or slumps. Provide adequate spacing to avoid accumulation of water in ditches or road surfaces. Culverts should be placed on solid ground to avoid road failures.
- 24) Proper sized aggregate and riprap should be used during culvert construction. Place riprap at culvert entrance to streamline water flow and reduce erosion.
- 25) Establish adapted vegetation on all cuts and fill immediately following road construction and maintenance.
- 26) Remove berms from the down slope side of roads, consistent with safety considerations.
- 27) Leave abandoned roads in a condition that provides adequate drainage without further maintenance. Close abandoned roads to traffic. Physically obstruct the road with gates, large berms, trenches, logs, stumps, or rock boulders as necessary to accomplish permanent closure.
- 28) Abandon and rehabilitate roads no longer needed. Leave these roads in a condition that provides adequate drainage. Remove culverts.
- 29) When plowing snow for winter use of roads, provide breaks in snow berms to allow for road drainage. Avoid plowing snow into streams. Plow snow only on existing roads.
- 30) Maintenance should be performed to conserve existing surface material, retain the original crowned or out-sloped self-draining cross section, prevent or remove rutting berms (except those designed for slope protection) and other irregularities that retard normal surface runoff. Avoid wasting loose ditch or surface material over the shoulder where it can cause stream sedimentation or weaken slump-prone areas. Avoid undercutting back slopes.
- 31) Do not disturb the toe of cut slopes while pulling ditches or grading roads. Avoid sidecasting road material into streams.

32) Grade roads only as necessary. Maintain drain dips, waterbars, road crown, in-sloping and out-sloping, as appropriate, during road maintenance.

33) Maintain roads in SMAs [Special Management Areas] according to SMA guidance. Generally, retain roads within existing disturbed areas and sidecast material away from the SMA.

34) When landslides occur, save all soil and material usable for reclamation or stockpile for future reclamation needs. Avoid side casting of slide material where it can damage, overload, and saturate embankments, or flow into down-slope drainage courses. Reestablish vegetation as needed in areas where vegetation has been destroyed due to side casting.

35) Strip and stockpile topsoil ahead of construction of new roads, if feasible. Reapply soil to cut and fill slopes prior to revegetation.

GLOSSARY OF TERMS

Access Agreement - (a) Generally construed to mean a Reciprocal Rights-of-Way agreement. It is an exchange of grants between the United States and a Permittee that provides for each party using the other's roads or constructing roads over the other's lands; (b) the rights granted to the United States through the purchase of a Rights-of-Way easement.

Back Country Byway - A road segment designated as part of the National Scenic Byway System. (These roads may or may not be BLM controlled roads).

Best Management Practices (BMP) - Methods, measures, or practices designed to prevent or reduce water pollution. Not limited to structural and nonstructural controls, and procedures for operations and maintenance. Usually, BMPs are applied as a system of practices rather than a single practice.

Casual Use - Activities ordinarily resulting in negligible disturbance of Federal lands and resources.

Construction - In general, building something new. See also "Maintenance" and Reconstruction."

Cultural Resource - Any definite location of past human activity identifiable through field survey, historical documentation, or oral evidence. This includes archaeological and architectural sites or structures and places of traditional cultural or religious importance to specific groups whether or not represented by physical remains.

Decommission - An indeterminate term commonly used in the context of "*closing roads, obliterating roads, and/or the rehabilitation of roads.*" See the ROAD CLOSURE section.

Developed Recreation - Recreation that requires facilities, resulting in concentrated use of an area. An example of a developed recreation site is a campground. Facilities might include roads, parking lots, picnic tables, restrooms, drinking water, and buildings.

District - A Bureau of Land Management (BLM) administrative unit responsible for the management of geographical land units within the Resource Areas under their purview. In ascending order of responsibility for on-the-ground management, the typical administrative structure of the BLM is Washington Office, State Office, **District Office**, and Resource Area Office.

Dispersed Recreation - A general term referring to recreation use outside developed recreation sites. This includes activities such as scenic driving, hiking, bicycling, backpacking, hunting, fishing, snowmobiling, horseback riding, cross-country skiing, and recreation in primitive environments.

Drainage Structure - Culvert, arch pipe, pipe arch, bridge (over a water way), or similar.

Easement - The rights granted to the United States through the purchase of a Rights-of-Way.

Easement (Exclusive) - A right acquired by the United States to use land of another for a particular purpose, such as a physical access corridor, which **may** allow the United States to set rules of use and authorize third-party use, i.e., public use.

Easement (Nonexclusive) - A right acquired by the United States to use land of another for a particular purpose, such right not granted exclusively to the United States and not excluding others

from enjoying the same privilege. Use is allowed to the United States, its agents, and those authorized to do business on U.S. Government lands. The underlying land owner retains control of the land use, subject to the terms of the rights granted to the United States.

Ecosystem - An interacting natural system including living organisms and the nonliving environment. Ecosystems may vary in size. For example, the community of microorganisms in water; the lake that contains the water; the watershed where the lake is situated; and the mountain range where the watershed is located.

Ecosystem Management - A strategy or plan to manage ecosystems to provide for all associated organisms, as opposed to a strategy or plan for managing individual species.

Environmental Assessment (EA) - A systematic analysis of site-specific activities used to determine whether such activities have a significant effect on the quality of the human environment and whether a formal Environmental Impact Statement (EIS) is required. Also used to aid an agency's compliance with the National Environmental Policy Act when no Environmental Impact Statement is necessary.

Feasible -An alternative that, when considered in a comprehensive context, is functionally suitable, physically viable, sociologically and economically reasonable, and biologically sound.

Forage - All browse and non-woody plants harvested for feed or available to livestock or wildlife for grazing.

Geographic Information System (GIS) - An organized collection of computer hardware, software, and geographic data designed to efficiently capture, store, update, manipulate, analyze, and display all forms of geographically referenced information. Certain complex spatial operations are possible with GIS that would be very time-consuming or impractical otherwise.

Harm - An appreciable or significant adverse impact to the environment.

Interdisciplinary Team (IDT) - A group of individuals with varying areas of specialty assembled to solve a problem or perform a task. The team is assembled out of recognition that no one scientific discipline is sufficiently broad enough to adequately analyze the problem and propose action.

Long Term - In context of these guidelines, ten years and beyond.

Maintenance - In general, taking care of what already exists. See also "Construction" and "Reconstruction."

Manual on Uniform Traffic Control Devices (MUTCD) - Standards for signing of streets and highways as approved by the Federal Highway Administration as the National Standard in accordance with Title 23, U.S. Code. These standards usually apply to roads subject to the Highway Safety Act, Maintenance levels 3-5.

Monitoring - The process of collecting information to evaluate if objective and anticipated or assumed results of a management plan are being realized or if implementation is proceeding as planned.

Off-Highway Vehicle (OHV) - As defined by CFR 8340.0-5; Any motorized vehicle capable of, or designed for, travel on or immediately over land, water, or other natural terrain, excluding (1) any non-amphibious registered motorboat; (2) any military, fire, emergency, or law enforcement vehicle while being used for emergency purposes; (3) any vehicle whose use is expressly authorized by the authorized officer; (4) vehicles in official use; and (5) any combat or combat support vehicle when used in times of national defense emergencies. OHV use is subject to operating regulations and vehicle standards set forth in 43 CFR 8341 and 8342. In compliance with Executive Orders 11644 and 11989, the term "Off Highway Vehicle" will be used in place of "Off Road Vehicle". The definition for both terms is the same.

Off Road Vehicle (ORV) - See "Off Highway Vehicle".

Partnership - In the context of these guidelines, partnerships are those alliances between individuals, groups and/or the District that enable road and trail maintenance or monitoring activities beyond those required for resource management access. Partnerships: 1) Foster good stewardship within the land management plan; 2) Are not exclusive but serve publics at large; and 3) Benefit all parties involved.

Passive Closure: A transportation facility closure technique where on going processes continue unabated to render the facility unusable and revert the facility to a more natural state.

Permittee - (a) The cooperating party to a reciprocal agreement (some early agreements refer to such a party as "Applicant"); (b) A third party using a road controlled by the United States and constructed over lands belonging to the Permittee in a reciprocal agreement; and (c) A party authorized to use roads controlled by the United States under the terms of a Unilateral Rights-of-Way, mining, or grazing permit, etc.

Project - Actions such as route use restrictions and ownership adjudication; and facility closure, new construction, reconstruction, maintenance, betterment, reconfiguration, or site rehabilitation.

Public Involvement - A process designed to broaden the information base upon which agency decisions are made by (1) informing the public about District activities, plans, and decisions, and (2) encouraging public understanding about and participation in the planning processes leading to final decision-making.

Riparian Conservation Areas (RCA) - Those portions of watersheds where riparian dependent resources receive primary emphasis and management activities are subject to specific standards and guidelines. RCAs include traditional riparian corridors, wetlands, and intermittent headwater streams, and other areas where proper ecological functioning is crucial to maintenance of the stream's water, sediment, woody debris and nutrient delivery systems.

Reconstruction - In general, a construction activity involving an existing route such as removing a corrugated metal culvert and installing a concrete arch. See also "Construction" and "Maintenance."

Recreation Opportunity Spectrum (ROS) - Land delineations that identify a variety of recreation experience opportunities. They are categorized into six classes: Primitive, Semiprimitive Non-motorized, Semiprimitive Motorized, Roaded Natural, Rural, and Urban.

Resource Management Plan (RMP) - A land use plan prepared by BLM Districts or Resource Areas under current regulations in accordance with the Federal Land Policy and Management Act.

Riparian Area - A geographic area containing an aquatic ecosystem and adjacent upland areas that directly affect it. This includes flood plains, woodlands, and all areas within a specified distance from the normal line of high water of a stream channel or from the shoreline of a standing body of water.

Road - Constructed or evolved transportation route that is maintained for regular use (except during periods of closure), that is greater than 54 inches in width, and that can be reasonably and prudently driven in a four-wheeled motorized vehicle licensed for use on public highways.

Road Density - A ratio of the cumulative horizontal length (miles) of all roads within a planning boundary, to the horizontal projection of the land area (measured in square miles using State Plane coordinates) within the planning area boundary deemed most appropriate for the road density goal being considered, such as the land within the boundaries of a critical/sensitive habitat area, watershed, or the actual land area within a map section.

Roadbed - The graded portion of the road within the top and side slopes, prepared as a foundation for the surface structure and shoulders.

Route - A linear ground transportation feature such as primitive two-track, way, road, or trail.

Special Recreation Management Area (SRMA) - An area where a commitment has been made to provide specific recreation activity and experience opportunities. These areas usually require a high level of recreation investment and/or management. They include recreation sites, but recreation sites alone do not constitute SRMAs.

Stabilization - A process to reduce risk of erosion and landslides by constructing drainage structures such as dips and water bars. This also includes seeding, planting other vegetation, or mulching on slopes. Unstable fill embankments that exceed the required road/trail width may be partially or fully removed.

Trail - Constructed or evolved transportation route no more than 54 inches in width that can be reasonably and prudently used by pedestrians, bicycles, All Terrain Vehicles (ATVs), or pack animals for recreational or commercial purposes.

Trail Density - A ratio of the cumulative horizontal length (miles) of all trails within a planning boundary, to the horizontal projection of the land area (measured in square miles using State Plane coordinates) within the planning area boundary deemed most appropriate for the trail density goal being considered, such as the

land within the boundaries of a critical/sensitive habitat area, watershed, or the actual land area within a map section.

Transportation Management Objectives - Written route-specific prescriptions developed by an interdisciplinary team that detail the parameters for construction, use, maintenance, and/or site rehabilitation.

Watershed - The drainage basin contributing water, organic matter, dissolved nutrients, and sediments to a stream or lake.

Watershed Analysis (WA) - Procedure used to characterize human, aquatic, riparian, and terrestrial features, conditions, processes, and interactions within a watershed. Watershed analysis is not a decision making process. The results of watershed analysis establish the context for subsequent decision making.

Way - A route maintained solely by the passage of vehicles which has not been improved and/or maintained by mechanical means to ensure relatively regular and continuous use. Ways may be repaired consistent with the exceptions identified in the Interim Management Policy for Lands Under Wilderness Review (see H-8550-1).

Appendix N - Wild and Scenic Rivers Suitability Evaluations

WILD AND SCENIC RIVER SUITABILITY EVALUATION THREEMILE CREEK

Characteristics Which Do or Do Not Make the Area a Worthy Addition to the System

Fisheries and cultural resource (prehistoric) are the two outstandingly remarkable values identified on public land within the river corridor, which could contribute to the designation of a Wild and Scenic River.

Threemile Creek is one of only three streams that provide habitat for the Catlow Valley redband trout, one of two native fish species of the Catlow Valley. A fourth stream within the area, has recently lost its redband trout population. However, the redband trout population may be greatly influenced by the private operation of the Threemile Creek Reservoir and diversion below the corridor. This can have an effect on how the fish move through the system. The stream historically, but no longer contains the other native fish species, the Catlow tui chub.

This segment of Threemile Creek contains significant prehistoric sites. One site is considered to be in very good condition, which is the reason for the outstandingly remarkable value, and is described in more detail in the following section. There are several other sites found within the segment, but are only found to be considered significant.

With a Wild and Scenic River designation, it is possible that any management activity that can effect the outstandingly remarkable values, may have fewer options. For example, livestock grazing for cattle may be eliminated as a result of designation. Designation may also draw more people to the area, increasing recreational activities within the corridor.

Because of the broken ownership, the stream segment would be difficult to manage due to the private land within the headwaters of the river corridor.

Landownership Status and Current Management and Uses

The Andrews Resource Area administers approximately 4.3 miles (63.2 percent) of the 6.8-mile stream length. Of the 2180.1 acres within the river corridor, 1558.9 acres are public land, and 621.2 acres are private property. The segment lies on the west side of Steens Mountain and flows westerly from its headwater until it enters private land in the Catlow Valley.

Threemile Creek begins on a plateau before cutting down through a canyon that exhibits Steens Basalt lava flows in its walls. The present amount of flow in the creek is undersized for the size of the canyon that it flows through, indicating that the canyon was downcut by the creek mostly during the wetter Late Pleistocene, common for this geographic region. There is a linear plateau northeast of Threemile Creek consisting of sediments capped by the Devine Canyon Ash-Flow Tuff. The plateau has a linear form that is parallel to the linear form of Threemile Creek, suggesting that the tuff was deposited in an ancient drainage that had the same trend as the current drainage. It is common to see similar linear plateaus paralleling present-day drainages on the west slope of Steens Mountain.

The stream is one of only three that provide habitat for the endemic Catlow Valley redband trout, a Bureau and Oregon Sensitive species. Higher quality fish habitat occurs in the portion of the canyon where good condition riparian vegetation provides a good cover of woody riparian species and large springs provide cooler water. No exotic fish species are in the system. The upper portion of the stream is above the canyon and has a lower gradient with sedge-rush dominated sites and very little woody riparian cover. During mid- or late summer, there is no water in the upper 1.3 miles of the drainage. Habitat for the Catlow Valley redband trout is poor or nonexistent in the upper area. The population of redband trout may be currently influenced by several years of drought, loss of good habitat in the upper reaches, and the private irrigation operation of Threemile Reservoir and diversion of water from the lower end of the stream, immediately below the corridor. Because of the low population seen during an Oregon Department of Fish and Wildlife survey in 1995, the Oregon Department of Fish and Wildlife closed the stream to angling. Catlow tui chub, another endemic Bureau Sensitive and Oregon Sensitive species, has been found in the lower reaches of the stream and on the reservoir in the past, but they are no longer in the system. They have never been located in public reaches of the stream.

California bighorn sheep use the canyon reaches yearlong. Mule deer winter at the lower elevations, and chukar are abundant. Valley quail are also found within the canyon. A sage grouse lek (strutting ground used in courtship) is in the upper part of the area, and nesting and brood use also occurs. The Federally endangered American peregrine falcon and Federally threatened northern bald eagle are documented migrants using this segment of the stream. Sensitive species that use the segment are western sage grouse, ferruginous hawk, California bighorn sheep, Townsend's big-eared bat, and Preble's shrew. Other Special Status species found or that possibly might use the stream segment are Swainson's hawk, merlin, yellow-billed cuckoo, gray catbird, mountain bluebird, western bluebird, bobolink, and northern sagebrush lizard.

The botanical values on this drainage are common to the region.

Prehistoric sites have been located in the drainage. A relatively intact rock shelter is located within the assessment area. Rock shelters are the source of much of the most spectacular, complete information about prehistoric American Indians. Because rock shelters are very often dry, they possess the proper environmental conditions for the preservation of prehistoric basketry, textiles, and other perishable artifacts. These items are extremely rare and provide much of the missing information not found at a majority of other prehistoric sites in the region.

This site remains unevaluated. It has the potential to be regionally important in the interpretation of prehistory because of its potential to contain perishable, datable items. There are two other prehistoric sites within the assessment area. Both are surface lithic scatters probably containing data of local importance only. These sites do not possess outstandingly remarkable values, but contribute substantially to the river setting because they are a part of the prehistoric settlement pattern found in Threemile Creek. All of the sites need to be evaluated for significance through subsurface testing and mapping of surface elements. Until this information is gathered, the data potential of these sites is not fully known.

The public and private portions of the corridor are managed for livestock grazing as part of the 332,400-acre South Steens Allotment Management Plan. It is also part of the active Herd Management Area of the South Steens Wild Horse Herd Area. Recreational use activities include hiking, hunting, sightseeing, photography, and wildlife observation, but currently not angling. The

corridor lies within the Home Creek Wilderness Study Area, and is being managed to protect those values.

Reasonably Foreseeable Uses of the Land and Water which would be Affected by Designation and the Values that would be Affected if the Area is not Designated

If designated as a scenic river, management would be similar to the present situation for most activities, but could be curtailed if there are impacts to the outstandingly remarkable values.

Recreation use would continue at the current level, until such a time that it is determined that impacts were occurring from overuse of the corridor. Livestock grazing is currently managed as described in the South Steens Allotment Management Plan, but could be eliminated due to designation.

Designation as a scenic river would preclude major diversions, hydroelectric power facilities, water supply or flood control dams, or other streambank modifications along the river. There are currently no known applications for such stream modifications.

Groups, Individuals, or Other Agencies' Interest in Designation or Nondesignation

The proponents of the Oregon High Desert Protection Act have recommended this stream as a National Wild and Scenic River. They published a brochure in the early 1990's, showing a list of their recommended rivers. Currently, there is no sponsor for their proposal.

Cost of Administration

The basic objective of Federal designation is to protect and enhanced the outstandingly remarkable values. Developing a management plan will depend upon the complexity of the issues associated with each designation.

Developing a management plan will require the following estimated cost:

Plan Development:

Resource Specialists	6 people for 3 WMs @ \$3,700	=	\$ 66,600
Management and Support	4 people for 1 WM @ \$4,000	=	\$ 16,000
Miscellaneous		=	\$ 5,000
Subtotal		=	\$ 87,600

Annual Management:

(signing, data collection, monitoring)	=	\$ 10,000
--	---	-----------

Acquisition:

Purchase or exchange of private land at \$225./acre	=	\$139,720
Administrative cost of split-estate acquisition	=	NA

Total = \$237,320

No State or local agency has come forward and stated they would be willing to share in the cost of administering this stream should it become part of the system.

Bureau of Land Management's Ability to Manage

The Bureau of Land Management currently manages the Donner und Blitzen National Wild and Scenic River, with experienced personnel. Threemile Creek is within the Home Creek Wilderness Study Area and is being managed to protect wilderness values until Congress makes a determination on wilderness designation.

The Catlow redband trout will continued to be managed and protected under existing Bureau of Land Management policy. At the present time, Threemile Creek is closed to fishing. The entire watershed is part of the nominated Catlow Redband Trout Area of Critical Environmental Concern and a portion is part of the nominated North Catlow Rim Area of Critical Environmental Concern. Under any of these, if approved, the area would have further protective management prescriptions, as yet to be decided.

All sensitive species will be managed in such a manner as to conserve the species to prevent listing.

The prehistoric rock shelter site would be protected by the Bureau of Land Management in compliance with the National Historic Preservation Act of 1966, as amended.

Historic and Existing Rights

There are no known historic or existing rights within the studied portions of the creek.

Suitability Determination

The Bureau of Land Management has determined that the eligible 4.3 miles of Threemile Creek that is located on public land is "not suitable" for inclusion in the National Wild and Scenic River system. The amount of private land located in the headwaters of the system would make management difficult.

It is felt that the two listed outstandingly remarkable values are currently being protected under existing management, as previous described, and will offer the same protection as found under the Wild and Scenic Rivers Act.

WILD AND SCENIC RIVER SUITABILITY EVALUATION WILLOW CREEK

Characteristics Which Do or Do Not Make the Area a Worthy Addition to the System

The outstandingly remarkable values identified within this river corridor are the botanical values associated with the existing South Fork Willow Creek Research Natural Area/Area of Critical Environmental Concern.

Approximately 200 acres out of a total of 230 acres of the Research Natural Area are within the river corridor. The area represents a wide variety of microhabitats including rock outcrops, ledges, a series of three bog terraces with pools, streams, and open shrubs. Plant communities includes those associated with stream systems originating in a glacial cirque.

With a Wild and Scenic River designation, it is possible that any management activities that could effect the outstandingly remarkable values, may have fewer options. For example, livestock grazing for cattle may be eliminated as a result of designation. Designation may also draw more people to the area, increasing recreation activities within the corridor.

Manageability will be a problem due to the private lands, adjacent to the county road, for public access.

Landownership Status and Current Management and Uses

The Andrews Resource Area administers approximately 6.2 miles of Willow Creek, while approximately .76-mile of Willow Creek is private property. Approximately 1,951 acres of public land are within the river corridor, while 243 acres are private land.

The head of Willow Creek and the head of Little Blitzen River meet at a narrow divide that has thick soil and no ice erosional features. Within the exposure of Steens Basalt and Steens Mountain Volcanics, there are some erosion-resistant feeder dikes that look like wall protrusions that extend northward for miles. These are inferred to be feeder dikes for the Steens Basalt flows.

Cirques developed in about 10 drainages on the east side of the Steens during the Pleistocene epoch. Each of these drainages generally contains two cirques, one about 2,500 feet above the Alvord Valley floor and the other about 1,500 feet above the lower one. It is interpreted that the more severe Fish Lake phase of glaciation formed cirques at a lower elevation than those that formed during the later and less severe Blitzen phase of glaciation.

In the northern fork of Willow Creek, the base of the upper cirque was at about 8,000 feet elevation and in the southern fork was at about 8,600 feet. The base of the lower cirque was at about 6,600 feet elevation for both forks. Below 6,600 feet, the creeks have a V-shaped cross section, indicative of normal stream erosion.

Lateral and ground moraines extend as low as 6,200 feet elevation in Willow Creek. Above these glacial deposits, the drainage exposes lava flows and pyroclastic rocks of the Steens Mountain volcanic to 5,500 feet elevation. Between 5,500 feet and 5,400 feet are exposures of tuffaceous sediments of the Alvord Creek Formation. Below this, the creek is in alluvial fan deposits to the

valley floor. On the south side of the creek, below 5,400 feet, there is a large landslide that was probably active during the Pleistocene.

Steens Mountain, which includes the Willow Creek drainage, falls within the Bureau of Land Management Visual Resource Management Class II. The objective of this class is to maintain the existing character of the landscape. It is also part of the High Steens Wilderness Study Area. This Wilderness Study Area is being recommended to Congress as part of the national wilderness system.

Recreational use within the river corridor is primitive in nature such as hiking, backpacking, hunting, and sightseeing.

Livestock grazing does occur and is within the Alvord Allotment. Due to topography, grazing occurs only in the lower elevation of the system.

Willow Creek is one of nine streams in the Alvord basin that has provided habitat for a transplanted population of Lahontan cutthroat trout, a Federally listed threatened species. Populations in the Alvord basin are addressed in the Recovery Plan for the species as being important as a source for possible reintroduction of the species into streams in the Coyote, Willow, and Whitehorse basins from which the original transplants came.

The area is closed to recreational angling for the protection of the Lahontan cutthroat trout.

Willow Creek has a high wildlife habitat diversity and most of the riparian habitat is in good or excellent condition. Willow Creek is a steep, rough, rocky drainage that drops 4,400 feet in elevation over approximately 2.5 horizontal miles.

California bighorn sheep may be viewed within the canyon yearlong. Raptor nesting occurs in abundant numbers in the cliffs and rims along Willow Creek. The area provides both summer and winter habitat for mule deer. As winter snow increases, deer may be forced to lower elevations. Deer use is often heavy during winter months.

Chukars are abundant in the area and valley quail are found along the riparian areas and at lower elevation within the uplands. Pika are found in the upper elevation within the talus slopes.

As mentioned, the botanical values were identified as an outstandingly remarkable value because of the designated Research Natural Area for a high elevation cirque plant communities known as the South Fork of Willow Creek.

The remaining botanical resources within the Willow Creek system are interesting, but not unique to the area.

No archaeological inventory has been completed for the area, nor are historic or prehistoric values of any significance known to occur within this area.

Reasonably Foreseeable Uses of the Land and Water which would be Affected by Designation and the Values that would be Affected if the Area is not Designated

If designated as a Wild or Scenic River, management would be similar to the present situation, for most activities, but could be curtailed if there are impacts to the outstandingly remarkable values.

Existing uses, such as recreation, would continue in the corridor at current levels, until such a time that increased uses or activities could harm the outstandingly remarkable value. The corridor would still be managed under Visual Resource Management Class II. The Wilderness Study Area would continue to be managed to protect their wilderness values, until Congress makes a determination on designation as wilderness.

Designation as a wild or scenic river area would continue with the existing management for botanical values, under the Research Natural Area/Area of Critical Environmental Concern management plan. Fish and wildlife habitat would be maintained, but not necessarily enhanced through long-term protection under the Wild and Scenic Rivers Act.

Designation would preclude major diversions, hydroelectric power facilities, water supply or flood control dams, or other major streambank modifications along the river. Currently, there are no known applications for such stream modifications.

Groups, Individuals, or Other Agencies' Interest in Designation or Nondesignation

The proponents of the Oregon High Desert Protection Act have recommended this stream as a National Wild and Scenic River. They published a brochure in the early 1990's, showing a list of their recommended rivers. Currently, they have no sponsor for their proposal.

Cost of Administration

The objective of Federal river designation is to maintain the rivers existing condition, and to protect and enhance the outstandingly remarkable values. Developing a management plan will depend upon the complexity of the issues associated with each designation. Developing a management plan will require the following estimated cost:

Plan Development:

Resource Specialists	6 people for 3 WMs @ \$3,700	=	\$ 66,600
Management and Support	4 people for 1 WM @ \$4,000	=	\$ 16,000
Miscellaneous		=	\$ 5,000
Subtotal		=	\$ 87,600

Annual Management:

(signing, data collection, monitoring)	=	\$ 10,000
--	---	-----------

Acquisition:

Purchase or exchange of private land at \$300./acre	=	\$ 72,900
---	---	-----------

Administrative cost of split-estate acquisition	=	NA
Total	=	\$170,500

No State or local agency has come forward and stated they would be willing to share in the cost of administering this river segment should it become part of the national system.

Bureau of Land Management's Ability to Manage

The Bureau of Land Management currently manages the Donner und Blitzen National Wild and Scenic River, with experienced personnel.

All sensitive species, within the river corridor, will be managed or action mitigated in such a manner as to conserve the species so as not to contribute to the need to list the species.

The South Fork of Willow Creek Research Natural Area/Area of Critical Environmental Concern will continue to be managed under the existing Research Natural Area plan to preserve the character of streams originating in glacial cirques. Scenic values will be managed under the guidelines for Visual Resource Management Class II and Wilderness Study Areas will be managed to protect their wilderness values until Congress makes a decision on wilderness designation.

Historic and Existing Rights

There are no known historic or existing rights within the studied portions of the creek.

Suitability Determination

The Bureau of Land Management has determined that the eligible 6.2 miles of public land within the Willow Creek drainage is "not suitable" for inclusion in the National Wild and Scenic River system. There are 243 acres of private land which breaks up the ownership pattern. There is also no legal public access to this drainage from the county road. Visitors to the area would have to find other ways to access the corridor for recreational opportunities.

It is felt that the outstandingly remarkable value listed for the system is only a small part of the headwaters of Willow Creek, and is already protected under an existing management plan for the Research Natural Area. The Research Natural Area is inaccessible due to topography, adding further to its protection from physical disturbance.

WILD AND SCENIC RIVER SUITABILITY EVALUATION VAN HORN CREEK

Characteristics Which Do or Do Not Make the Area a Worthy Addition to the System

The outstandingly remarkable value identified on public land, within the river corridor, is recreation. This outstandingly remarkable value could contribute to the designation of a Wild and Scenic River.

Approximately 1-mile of the Oregon High Desert National Recreation Trail parallels the upper portion of Van Horn Creek, and offers outstanding recreation opportunities for hiking and backpacking within the area.

With a Wild and Scenic River designation, it is possible that any management activities that could affect the outstandingly remarkable value, may have fewer options. For example, livestock grazing for cattle may be eliminated as a result of designation. Designation may also draw more people to the area, increasing recreation activities within the corridor.

Management of the river corridor would be practical due to public ownership.

Landownership Status and Current Management and Uses

The Andrews Resource Area administers approximately 9.9 miles of Van Horn Creek. Approximately 3,153 acres of public land are within the river corridor. The segment runs through one section of split-estate land (State owns the mineral rights).

Like Colony Creek and Cherry Creek, Van Horn Creek cuts through alluvial fan deposits from the valley floor to approximately 4,500 feet elevation. From 4,500 feet to beyond the ridgeline, the creek cuts through Mesozoic schistose metavolcanic rocks. These rocks are generally rich in muscovite and have a whitish sheen. They form erosion resistant outcrops that protrude into Van Horn Creek.

At approximately 4,900 feet, the edge of a pluton crosses the creek. This pluton is composed of fine-grained quartz diorite, and is one of seven plutons in the Pueblos. In the quartz diorite, the most easily recognized mineral is plagioclase. The mafic minerals in the quartz diorite have been metamorphosed from hornblende to biotite, magnetite, and epidote.

The upper reaches of the creek, above 6,700 feet elevation in Van Horn basin, are in the lower part of a several thousand foot thick package of lava flows known as Steens Basalt. The tertiary Steens Basalt tilts gently westward and lies in erosional unconformity on the older metamorphic rocks.

Pueblo Mountains, which includes the Van Horn Creek drainage, fall within the Bureau of Land Management Visual Resource Management Class II. The objective of this class is to maintain the existing character of the landscape. Van Horn Creek is within the Pueblo Mountain Wilderness Study Area, with portions of this Wilderness Study Area being recommended to Congress as wilderness.

Recreation has been identified as an outstandingly remarkable value. Recreational use within the river corridor is a primitive type such as hiking, backpacking, hunting, and sightseeing.

Approximately 1-mile of Van Horn Creek, located in Van Horn basin, is within close proximity of the Oregon High Desert National Recreational Trail.

The majority of Van Horn Creek is inaccessible for hiking due to the dense vegetation, boulders, and steep cliffs found in the drainage.

Van Horn Creek is one of nine streams in the Alvord basin that has provided habitat for a transplanted population of Lahontan cutthroat trout, a Federally listed threatened species. Populations in the Alvord basin are addressed in the Recovery Plan for the species as being important as a source for possible reintroduction of the species into streams in the Coyote, Willow, and Whitehorse basins from which the original transplants came.

Brown trout, which are not native to this system, are also present within this stream, along with the Lahontan cutthroat trout.

Van Horn Creek also provides habitat for Alvord chub, a Bureau of Land Management sensitive species. These fish have been seen in the lower reaches, but probably do not extend much upstream because of the steeper gradient in the lower canyon reaches.

Livestock grazing does occur and is within the Pueblo Lone Mountain Allotment.

The area is closed to recreational angling for the protection of the Lahontan cutthroat trout.

Van Horn Creek has a good wildlife habitat diversity, but is much lower in elevation than many other streams.

The creek provides habitat for California bighorn sheep from spring through the fall, but move out of the area during winter. Mule deer summer at upper elevations and winter at lower areas. Antelope make light use of the area.

Sage grouse use upper elevation springs during the summer. Chukars are abundant in the rough lower canyon of Van Horn Creek. Valley quail are also present along the lower reaches.

Narrowleaf cottonwood, which only grows in a few areas in the region, occurs in the drainage. This botanical value is considered significant, but not exceptional.

No archaeological inventory has been completed for the area, nor are historic or prehistoric values of any significance known to occur within this area.

Reasonably Foreseeable Uses of the Land and Water which would be Affected by Designation and the Values that would be Affected if the Area is not Designated

If designated as a scenic river, management would be similar to the present situation, for most activities, but could be curtailed if there are impacts to the outstandingly remarkable value.

Existing uses, such as recreation, would continue in the corridor at current levels, until such a time that increased uses or activities could harm the outstandingly remarkable value, or free-flowing character of the stream. The corridor would still be managed under Visual Resource Management

Class II. Wilderness Study Areas would continue to be managed to protect their wilderness values, until Congress makes a determination on designation as wilderness.

A scenic designation would preclude major diversions, hydroelectric power facilities, water supply or flood control dams, or other major streambank modifications along the river.

Groups, Individuals, or Other Agencies' Interest in Designation or Nondesignation

The proponents of the Oregon High Desert Protection Act have recommended this stream as a National Wild and Scenic River. They published a brochure in the early 1990's, showing a list of their recommended rivers. Currently, they have no sponsor for their proposal.

Cost of Administration

The objective of Federal river designation is to protect and enhance the outstandingly remarkable values. Developing a management plan will depend upon the complexity of the issues associated with each designation.

Developing a management plan will require the following estimated cost:

Plan Development:

Resource Specialists	6 people for 3 WMs @ \$3,700	=	\$ 66,600
Management and Support	4 people for 1 WM @ \$4,000	=	\$ 16,000
Miscellaneous		=	\$ 5,000
Subtotal		=	\$ 87,600

Annual Management:

(signing, data collection, monitoring)	=	\$ 10,000
--	---	-----------

Acquisition:

Purchase or exchange of private land	=	NA
Administrative cost of split-estate acquisition	=	\$ 5,280*
Total	=	\$102,880

- * **The administrative cost of split-estate acquisition includes preparation of a mineral report by Bureau of Land Management staff. At this time, cost for the actual mineral estate cannot be determined because each parcel's mineral value is unknown without the detailed mineral report.**

No State or local agency has come forward and stated they would be willing to share in the cost of administering this river segment should it become part of the national system.

Bureau of Land Management's Ability to Manage

The Bureau of Land Management currently manages the Donner und Blitzen National Wild and Scenic River, with experienced personnel.

All sensitive species, within the river corridor, will be managed or action mitigated in such manner as to conserve the species so as not to contribute to the need to list the species.

Recreation values will continue to be managed under the existing guidelines and policy for recreation management. Scenic values will continue to be managed under existing guidelines for Visual Resource Management Class II, and Wilderness Study Areas will continue to be managed to protect their wilderness values until Congress makes a decision on wilderness designation.

Historic and Existing Rights

There are no known historic or existing rights within the studied portions of the creek.

Suitability Determination

The Bureau of Land Management has determined that the eligible 9.9-mile segment of the Van Horn Creek is "not suitable" for inclusion in the National Wild and Scenic River system. It is felt that the recreation outstandingly remarkable value is currently being managed under the existing guidelines and policy for recreation management. The 1-mile portion of the Oregon High Desert National Recreation Trail, which is in close proximity of Van Horn Creek, has been established since 1992. The original Oregon High Desert Trail was established in 1980.

The combined management activities as discussed will offer the same protection as found under the National Wild and Scenic Rivers Act.

WILD AND SCENIC RIVER SUITABILITY EVALUATION COTTONWOOD CREEK

Characteristics Which Do or Do Not Make the Area a Worthy Addition to the System

The outstandingly remarkable value identified within this river corridor is the botanical value associated with the narrowleaf cottonwood/Mormon tea community, and could contribute to the designation of a Wild and Scenic River.

Several State and Bureau sensitive species are also found within the corridor.

With a Wild and Scenic River designation, it is possible that any management activities that could effect the outstandingly remarkable value, may have fewer options. For example, livestock grazing for cattle may be eliminated as a result of designation. Designation may also draw more people to the area, increasing recreation activities within the corridor.

Manageability of the river corridor would be practical due to total public ownership.

Landownership Status and Current Management and Uses

The Andrews Resource Area administers all of the 12.1 miles of Cottonwood Creek. Approximately 3,712 acres of public land are within the river corridor.

The area contains geologic characteristics similar to other creeks in this geographic region. Steens basalt and tertiary sediment deposited in the ancestral Pueblo Valley have been exposed by the action of the stream.

Recreational use within the river corridor is of a primitive type such as hiking, backpacking, solitude, and hunting.

The diverse vegetation and geomorphic features influence the diversity of wildlife species. Deer and antelope summer at the upper elevations, and winter at lower elevations along the river corridor. Bighorn sheep summer in the headwaters of Cottonwood Creek and winter outside the area. Sage grouse use the drainage all year with the meadows being important habitat in the spring and summer. Chukars are abundant throughout the steep parts of the drainage and valley quail are found at mid- and lower elevations.

No fish are present within the Cottonwood Creek drainage.

The lower reach of the stream is a Research Natural Area/Area of Critical Environmental Concern for the special narrowleaf cottonwood/Mormon tea complex plant community. Several State sensitive plant species of concern are present in the lower reaches of this drainage. The upper reaches contain alder and aspen groves.

All of the drainage is within the Pueblo Mountain Wilderness Study Area, with a portion of this area being recommended to Congress for wilderness designation.

Livestock grazing occurs within the Pueblo-Lone Mountain Allotment from April to June each year.

No archaeological inventory has been completed for the area, nor are significant historic or prehistoric values known to occur.

Reasonably Foreseeable Uses of the Land and Water which would be Affected by Designation and the Values that would be Affected if the Area is not Designated

If designated as a Wild and Scenic River, management for most activities would be similar to the present situation, but could be curtailed if there are impacts to the outstandingly remarkable value.

Recreation use would continue at current levels until such a time that it was determined that impacts were occurring from overuse of the river corridor. The corridor will still be managed under Visual Resource Management Class II. The Wilderness Study Area would continue to be managed to protect their wilderness values, until Congress makes a determination on designation as wilderness.

Scenic designation would preclude major diversions, hydroelectric power facilities, water supply for flood control dams, or other major streambank modifications along the stream. Currently, there are no known applications for such stream modifications.

Groups, Individuals, or Other Agencies' Interest in Designation or Nondesignation

The proponents of the Oregon High Desert Protection Act have recommended this stream as a National Wild and Scenic River. They published a brochure in the early 1990's, showing a list of their recommended rivers. Currently, they have no sponsor for their proposal.

Cost of Administration

The basic objective of Federal river designation is to protect and enhance the outstandingly remarkable values. Developing a management plan will depend upon the complexity of the issues associated with each designation.

Developing a management plan will require the following estimated cost:

Plan Development:

Resource Specialists	6 people for 3 WMs @ \$3,700	=	\$ 66,600
Management and Support	4 people for 1 WM @ \$4,000	=	\$ 16,000
Miscellaneous		=	\$ 5,000
Subtotal		=	\$ 87,600

Annual Management:

(signing, data collection, monitoring)	=	\$ 10,000
--	---	-----------

Acquisition:

Purchase or exchange of private land	=	NA
Administrative cost of split-estate acquisition	=	\$ 5,280*
Total	=	\$102,880

- * **The administrative cost of split-estate acquisitions includes preparation of a mineral report by Bureau of Land Management staff. At this time, cost for the actual mineral estate cannot be determined because each parcel's mineral value is unknown without the detailed mineral report.**

No State or local agency has come forward and stated they would be willing to share in the cost of administering this stream should it become part of the system.

Bureau of Land Management's Ability to Manage

The Bureau of Land Management currently manages the Donner und Blitzen National Wild and Scenic River, with experienced personnel.

All sensitive species within the river corridor will be managed or action mitigated in such a manner, as to conserve the species so as not to contribute to the need to list the species.

The Pueblo Foothills Research Natural Area/Area of Critical Environmental Concern contains most of the narrowleaf cottonwood and Mormon tea, as well as several State and Bureau sensitive plant species. This particular value is currently being managed and protected under the Pueblo Foothill Research Natural Area/Area of Critical Environmental Concern management plan.

Scenic values will continue to be managed under existing Visual Resource Management guidelines for Class II, and Wilderness Study Areas will continue to be managed to protect their wilderness values until Congress makes a decision on wilderness designation.

Historic and Existing Rights

The area in and around the Cottonwood Creek drainage is high in mineralization and claims have been filed and worked in the past. Presently, there are no valid mining claims or any other existing rights within the study portions of the creek.

Suitability Determination

The Bureau of Land Management has determined that the eligible 12.1 miles of Cottonwood Creek is "not suitable" for inclusion in the National Wild and Scenic River system.

It is felt that the outstandingly remarkable value for botanical resources is currently being managed under the existing Pueblo Mountain Research Natural Area/Area of Critical Environmental Concern management plan. The Research Natural Area has been established since 1982, with the first management plan being developed in 1984, and updated in 1994.

The continued Bureau of Land Management riparian management and sensitive species policies, will also add protection to the Cottonwood Creek area.

WILD AND SCENIC RIVER SUITABILITY EVALUATION BIG TROUT CREEK

Characteristics Which Do or Do Not Make the Area a Worthy Addition to the System

The outstandingly remarkable value identified within this river corridor is scenic quality, and could contribute to the designation of a Wild and Scenic River.

Big Trout Creek, which includes the East Fork, has a diverse landscape with rock outcrops and a thick blanket of quaking aspen throughout the canyon. The scenic quality is currently being managed under the Visual Resource Management Class II. The objective of this class is to retain the existing character of the landscape.

With a Wild and Scenic River designation, it is possible that any management activities that could affect the outstandingly remarkable value, may have fewer options. For example, livestock grazing for cattle may be eliminated as a result of designation. Designation may also draw more people to the area, increasing recreation activities within the corridor.

Manageability of the river corridor would be a problem, due the amount of private land within the river corridor.

Landownership Status and Current Management and Uses

The Andrews Resource Area administers approximately 9.6 miles of Big Trout Creek, and 2.9 miles of the East Fork of Trout Creek, while there are 4.2 miles of private land in Big Trout Creek, and 3.6 miles within the East Fork of Trout Creek. This totals 20.3 miles of stream within the river corridor. The segment also runs through three different sections of split-estate land (State owns the minerals).

Approximately 4,998 acres of public land are within the river corridor, and 1,493 acres of private land, for a total of 6,491 acres.

Big Trout Creek and the East Fork of Trout Creek cut through gently-dipping Steens Basalt flows that are overlain by andesitic lava flows and rhyolitic ash-flow tuffs. The linear pattern of the creeks indicate that the location of Big Trout Creek and the East Fork of Trout Creek are fault-controlled, and geologic mapping in "The V" topographic quadrangle shows faults along portions of the creeks. The plateaus between the creeks are nearly flat because the ash-flow tuffs and lava flows capping the plateaus were deposited with a flat top and are thick and resistant to erosion. The ash-flow tuffs erupted from the McDermitt Caldera complex to the southeast, the Pueblo Caldera to the west, and the Whitehorse Caldera to the north.

As described earlier, Trout Creek Mountains fall within the Bureau of Land Management's Visual Resource Management Class II. A good portion of Big Trout Creek is within the Mahogany Ridge Wilderness Study Area. None of this Wilderness Study Area is being recommended to Congress for wilderness designation.

Recreational use within the corridor includes primitive types such as hiking, backpacking, hunting, fishing, and sightseeing.

Big Trout Creek provides habitat for hybrid rainbow-cutthroat trout and Alvord chub. The Alvord chub is a Bureau sensitive species.

Livestock grazing does occur and is within the Trout Creek Allotment Management Plan. As a result of recent changes in grazing management, the riparian area is rapidly improving.

Big Trout Creek has good diversity of wildlife habitats. The lower elevations provide deer winter range and the upper elevations provide deer summer range. Sage grouse use meadows and springs near the headwaters as summer habitat and winter at lower elevations.

Reasonably Foreseeable Uses of the Land and Water which would be Affected by Designation and the Values that would be Affected if the Area is not Designated

If designated as a Wild and Scenic River, management for most activities would be similar to the present situation, but could be curtailed if there are impacts to the outstandingly remarkable value.

Existing uses, such as recreation, would continue in the corridor at current levels, until such a time that increased uses or activities could harm the outstandingly remarkable value, or free-flowing character of the stream.

Designation as a scenic river area would allow continued management under the current Visual Resource Management Class II. Wilderness Study Areas would continue to be managed to protect their wilderness values, until Congress makes a determination on designation as wilderness.

Scenic designation would preclude major diversions, hydroelectric power facilities, water supply or flood control dams, or other major streambank modifications along the river. Currently, there are no known applications for such stream modifications.

Groups, Individuals, or Other Agencies' Interest in Designation or Nondesignation

The proponents of the Oregon High Desert Protection Act have recommended this stream as a National Wild and Scenic River. They published a brochure in the early 1990's, showing a list of their recommended rivers. Currently, they have no sponsor for their proposal.

Cost of Administration

The objective of Federal river designation is to protect and enhance the outstandingly remarkable values. Developing a management plan will depend upon the complexity of the issues associated with each designation.

Developing a management plan will require the following estimated cost:

Plan Development:

Resource Specialists	6 people for 3 WMs @ \$3,700	=	\$ 66,600
Management and Support	4 people for 1 WM @ \$4,000	=	\$ 16,000
Miscellaneous		=	\$ 5,000

Subtotal		=	\$ 87,600
----------	--	---	-----------

Annual Management:

(signing, data collection, monitoring)		=	\$ 10,000
--	--	---	-----------

Acquisition:

Purchase or exchange of private land at \$350./acre	=	\$522,830
Administrative cost of split-estate acquisition	=	\$ 5,280*

Total	=	\$625,710
-------	---	-----------

- * The administrative cost of split-estate acquisition includes preparation of a mineral report by Bureau of Land Management staff. At this time, cost for the actual mineral estate cannot be determined because each parcel's mineral value is unknown without the detailed mineral report.

No State or local agency has come forward and stated they would be willing to share in the cost of administering this river segment should it become part of the national system.

Bureau of Land Management's Ability to Manage

The Bureau of Land Management currently manages the Donner und Blitzen National Wild and Scenic River, with experienced personnel.

Scenic values will continue to be managed under the existing Visual Resource Management guidelines for Class II, and Wilderness Study Areas will continue to be managed to protect their wilderness values until Congress makes a decision on wilderness designation.

Even though the area is not recommended by the Bureau of Land Management for designation as wilderness, this does not mean that Congress will not decide to designate this area as part of the national wilderness system.

All sensitive species within the river corridor will be managed or action mitigated in such a manner as to conserve the species so as not to contribute to the need to list the species.

Historic and Existing Rights

There are no known historic or existing rights within the studied portions of the creek.

Suitability Determination

The Bureau of Land Management has determined that the eligible 11.9-mile segment of the Big Trout Creek, on public land, which includes the East Fork tributary, is "not suitable" for inclusion in the National Wild and Scenic River system.

The area has a large amount of private land, primarily in the form of 40-acre parcels, scattered within the bottom of the river corridor. Manageability would be very difficult due to the broken ownership.

WILD AND SCENIC RIVER SUITABILITY EVALUATION BIG ALVORD CREEK

Characteristics Which Do or Do Not Make the Area a Worthy Addition to the System

The outstandingly remarkable value identified for this stream is the diversity and excellent condition of riparian and wildlife habitat found in Big Alvord Creek, especially the upper elevation.

The outstandingly remarkable values discussed make Big Alvord Creek a potential addition to the National Wild and Scenic River system. The excellent condition riparian and upland vegetation is similar to other drainage on the East Steens, but the diversity here is greater.

This drainage is one of nine streams in the Alvord Basin which provided habitat for a transplanted population of Lahontan cutthroat trout, a Federally listed fish species. Populations of this fish in the Alvord Basin are addressed in the Recovery Plan for the species as being important as a source for possible reintroduction of the species into streams in the Coyote-Willow-Whitehorse basin from which the original transplants came. The fish in Big Alvord Creek, however, are not native to the stream, so the effects of the introduction of the species on what was the native aquatic fauna are not known. It is not known if the fish are still present in the stream and an intensive examination has

not been done. Even if the fish are present, the stream may not provide sufficient habitat for a long-term reliable source for future reintroduction.

With a Wild and Scenic River designation, it is possible that the management of activities that can affect the outstandingly remarkable values, may have fewer options. Livestock grazing for cattle may be eliminated if this system was designated. Designation may also draw more people to the area, causing increased use of the area for recreation.

The lower portion of this drainage, west of the county road, is private property. There is no public access from the county road to the Bureau of Land Management lands. Manageability problems will occur, if the segment is added to the system. Recreationists will have to find other ways around the private property to gain access to Big Alvord Creek.

Landownership Status and Current Management and Uses

The Andrews Resource Area administers approximately 6.3 miles of Big Alvord Creek. The lower reach of the stream is on private land owned by Alvord Ranch.

Land in the Big Alvord Creek drainage is used for wildlife habitat, recreation, and livestock grazing. This drainage has a high wildlife habitat diversity and the riparian habitat is in excellent condition. It is a steep, rough, and rocky drainage that drops about 5,000 feet within three horizontal miles. Wildlife using the area include California bighorn sheep, deer, chukar, quail, pikas, and many other birds and mammals. Bighorn sheep may be viewed within the canyon all year. Raptors nest in the cliffs and rims, and deer occupy the area during both summer and winter. Deer use is often heavy in the winter as snow forces them to move to lower elevations. Chukars are abundant on the steep, lower slopes and valley quail are found along the riparian areas and in the lower uplands. Pikas are found in the upper elevation talus slopes.

The vegetation in the drainage is diverse and in excellent condition. Plant communities include upper cirque communities, alpine areas, rocky rims and slopes, black cottonwood, alder, dogwood and willow riparian areas, bluebunch wheatgrass slopes, Idaho fescue slopes, mountain mahogany, and aspen patches.

The public land within the drainage is part of the High Steens Wilderness Study Area, the Steens Mountain Area of Critical Environmental Concern for scenic values, and the potential Big Alvord Creek Research Natural Area for special plant communities.

The Big Alvord drainage is within the Alvord grazing allotment, but only the lowest reaches can be grazed by livestock due to steep topography.

The geology of this area is similar to other creeks in this region. The drainage contains glacial cirques, moraines, remnants of lava flows, and a large alluvial fan.

Reasonably Foreseeable Uses of the Land and Water which would be Affected by Designation and the Values that would be Affected if the Area is not Designated

If the Big Alvord Creek drainage is designated as a Wild or Scenic River, the management for most activities would be similar to the present situation, but could be curtailed if there are impacts to the outstandingly remarkable values. Livestock grazing could be eliminated due to the designation of

the stream into the Wild and Scenic River system. Recreational use would continue at the current level, until such a time that it was determined that impacts were occurring from overuse of the river corridor.

Many parts of Steens Mountain could end up having one special designation stacked on top of another. The Big Alvord Creek drainage is proposed to become an Area of Critical Environmental Concern for the excellent condition vegetation resources. It is also part of an existing Area of Critical Environmental Concern for scenic qualities and is also recommended to be designated as wilderness.

Groups, Individuals, or Other Agencies' Interest in Designation or Nondesignation

The proponents of the Oregon High Desert Protection Act have recommended this stream as a National Wild and Scenic River. They published a brochure in the early 1990's, showing a list of their recommended rivers. Currently, they have no sponsor for their proposal.

Cost of Administration

The basic objective of Federal river designation is to protect and enhance the outstandingly remarkable values. Developing a management plan will depend upon the complexity of the issues associated with each designation.

Developing a management plan will require the following estimated cost:

Plan Development:

Resource Specialists	6 people for 3 WMs @ \$3,700	=	\$66,600
Management and Support	4 people for 1 WM @ \$4,000	=	\$16,000
Miscellaneous		=	\$ 5,000
Subtotal		=	\$87,600

Annual Management:

(signing, data collection, monitoring) = \$10,000

Acquisition:

Purchase or exchange of private land	=	NA
Administrative cost of split-estate acquisition	=	NA
Total	=	\$97,600

No State or local agency has come forward and stated that they would be willing to share in the cost of administering this river segment, should it become part of the national system.

Bureau of Land Management's Ability to Manage

The Bureau of Land Management currently manages the Donner und Blitzen National Wild and Scenic River, with experienced personnel. The Big Alvord Creek drainage is currently within the High Steens Wilderness Study Area and is also being managed to protect these values until Congress makes a determination on wilderness designation.

The overall condition of the watershed and the riparian area is being managed in compliance with the Endangered Species Act Section 7 Biological Opinion for the Lahontan cutthroat trout, the Bureaus policies for riparian areas and the Terms and Conditions of the grazing permit consistent with the Biological Opinion.

Other sensitive species will be managed or actions mitigated in such a manner as to conserve the species so as not to contribute to the need to list the species.

The outstandingly remarkable values within this drainage can be protected without the Wild and Scenic designation because of existing management, and also because the majority of the stream is inaccessible to most types of disturbances.

Historic and Existing Rights

There are no known historic or existing rights within the studied portions of the creek.

Suitability Determination

The Bureau of Land Management has determined that the eligible 6.3 miles of Big Alvord Creek is "not suitable" for inclusion in the National Wild and Scenic River system. The presence of the Federally listed trout, the Wilderness Study Area status, the location and topography of the drainage along the east face of the Steens, the continued Bureau of Land Management riparian management policies will provide the same level of protection for the two outstandingly remarkable values, as would protection under the Wild and Scenic Rivers Act.

Public access from the county road is not available to the public, and offers no legal access for visitor use.

WILD AND SCENIC RIVER SUITABILITY EVALUATION HOME CREEK

Characteristics Which Do or Do Not Make the Area a Worthy Addition to the System

Fisheries, scenic quality, and recreation are the outstandingly remarkable values identified for Home Creek. Home Creek is one of only three streams that provide habitat for the Catlow Valley redband trout, one of two native fish species of the Catlow Valley. Recently, a fourth stream has apparently lost its redband trout population. The limited and possibly diminishing distribution of the Catlow Valley redband trout would make Home Creek a potential for designation, because it offers the most habitat for this species. The stream historically, but no longer, contains the other native fish species, the Catlow tui chub.

Management for the protection of the stream habitat, however, is complicated by the landownership pattern. The Bureau of Land Management manages less than half of the corridor and less than half of the stream length. Most of the upper watershed is privately owned. Any adverse impacts to the condition of the watershed in this upper area can affect the downstream portion. Management to prevent such threats and to improve the overall condition of the stream is dependent upon cooperative and adaptive management with the private landowner, through the South Steens Allotment Management Plan.

With a Wild and Scenic River designation, it is possible that management of activities that can affect the outstandingly remarkable values may have fewer options. For example, livestock grazing for cattle may be eliminated due to designation.

If the stream continues to be open for angling, designation may draw more anglers to the area, increase angling pressure, and possibly impact the Catlow redband trout population.

Management as a Wild and Scenic River would be difficult due to the large size of the pastures in which it is situated, the amount of private land in the watershed, and the free-roaming nature of the wild horse herd in the area.

Landownership Status and Current Management and Uses

The Andrews Resource Area administers approximately 5.7 stream miles (2,096 acres), which is 38.5 percent of the 14.8 stream length (4,615 acres). The remaining 9.1 miles of stream are on private land. All three tributaries of Home Creek in the headwaters are located on private property. The upper two-thirds of the creek is located on private property, while the lower one-third is public land. The lower one-third portion of the creek flows through a deep basalt canyon, terminating in Catlow Valley.

Home Creek begins on a plateau, before cutting down through a canyon that exhibits Steens Basalt lava flows within its walls. There is a linear plateau lying parallel to and northeast of Home Creek, consisting of sediments capped by the Devine Canyon Ash-Flow Tuff. The location and orientation of the plateau suggests that the tuff was deposited in an ancient drainage that had the same trend as the current drainage. It is common to see similar linear plateaus paralleling present-day drainages on the west slope of Steens Mountain. The present amount of stream flow in the creek is undersized for the size of the canyon that it flows through, indicating that the canyon was downcut by the creek mostly during the wetter Late Pleistocene, common for this geographic region. At the mouth of Home Creek Canyon, there is a curved deposit of alluvium that may either be a delta that formed during the time of pluvial Catlow Lake or it may be recent faulting of a shoreline wave-cut terrace formed by pluvial Catlow Lake. Neither feature is unique to this geographic region.

The lower portion of Home Creek flows through a rough, rocky canyon with 300 to 1,300-foot canyon walls and has a high habitat diversity in excellent riparian condition. California bighorn sheep use the lower canyon yearlong, and mule deer use it in winter. Steep canyon walls provide good nesting sites for raptors. The lower canyon is excellent habitat for chukar and valley quail. The lower reach of the stream is in a naturally vegetated state due to the inaccessibility of the area to livestock and wild horses. Above Home Creek Canyon, the habitat on public land has a low diversity, the condition is poor, and woody riparian species are absent or sparse. This is partly due to livestock and wild horse grazing, but is expected to improve under a recently implemented Allotment Management Plan. Mule deer summer at the upper elevations, and some antelope summer use also occurs. Sage grouse use the mid- and upper portions spring through fall. The Federally endangered American peregrine falcon and the Federally threatened northern bald eagle are documented migrants for the area. Bureau sensitive species that are found or possibly found are ferruginous hawk, western sage grouse, California bighorn sheep, Townsend's big-eared bat, and Preble's shrew. Other Special Status species that are found or possibly occur are Swainson's hawk, merlin, yellow-billed cuckoo, bank swallow, mountain bluebird, western bluebird, loggerhead shrike, bobolink, and northern sagebrush lizard.

Home Creek has provided habitat for the Catlow redband trout and Catlow tui chub, both Bureau sensitive species and endemic to the Catlow Valley. Home Creek is one of only four streams in the valley that historically provided habitat for these species, only three of which still provide habitat for the Catlow redband trout. No exotic fish species are in the system. Part of the stream reaches on public land provide good quality redband trout habitat, associated with excellent riparian conditions. The upper reaches, which are privately owned, do not provide good quality fish habitat and can affect the lower reaches; however, they are managed as part of a public grazing allotment and have the potential for improvement.

Surveys in 1974, 1994, and 1995 indicate that the Catlow tui chub is not in Home Creek. However, it is possible that the tui chub was never abundant in the system because of the steep gradient in its lower reaches.

The botanical resources indigenous to Home Creek are not remarkable or unique to the area.

Prehistoric cultural sites are known to occur within this drainage. None have rare, unusual characteristics or exceptional human interest value. No historic sites have been recorded for this drainage.

From a scenic and recreation perspective, Home Creek, compared to the other creeks in the immediate area, offers diversity. Home Creek Canyon cuts into the plateau with a depth of 300 to 1,300 feet for over 2.5 miles. With sheer rock walls, the canyon rises 1,300 feet in about 0.25-mile. The remaining 13.5 miles of Home Creek and associated tributaries are in a fairly shallow canyon just over 100 feet in depth. The variety of landforms and color, scenic views of the canyon, and its impressive size contribute to the high quality of the scenery. Compared to other streams in the broader area, such as the larger Donner and Blitzen National Wild and Scenic River, Home Creek is not considered as spectacular.

Recreation opportunities are accessible, but challenging. Primitive recreation, such as hiking, hunting, and fishing are available to those willing to dare the steep, rocky terrain. The length of the canyon and its ruggedness and steepness would be a challenge to the hiker and of interest to a backpacker. Hunting occurs in the area as a whole, and to some degree in Home Creek, although this is limited due to the extremely rugged terrain. Fishing for inland redband trout occurs.

The public and private portions of the corridor are managed for livestock grazing as part of the 332,400-acre South Steens Allotment, which has an Allotment Management Plan. It is also part of the active Herd Management Area of the South Steens Wild Horse Herd Area. The corridor lies within the Home Creek Wilderness Study Area, but only the Federal portion falls within the area the Bureau of Land Management recommended as suitable for wilderness designation.

Reasonably Foreseeable Uses of the Land and Water which would be Affected by Designation and the Values that would be Affected if the Area is not Designated

If Home Creek is designated as a Wild and Scenic River, the management for most activities would be similar to the present situation, but could be curtailed if there are impacts to the outstandingly remarkable values. The Catlow redband trout would be managed and protected under the Bureau of Land Management's policy to manage sensitive species in such a manner as to conserve the species.

Livestock grazing, which includes cattle and wild horses, could be eliminated due to designation.

Until such time as Congress determines wilderness designation, the area would continue to be managed to protect those values. Recreation use would continue at its current level, until such a time that it was determined that impacts were occurring from overuse of the river corridor.

Designation as a scenic river, would preclude major diversions, hydroelectric power facilities, water supply or flood control dams, or other streambank modifications along the river. There are currently no known applications for such stream modifications. No management activities that could adversely affect the fish habitat or free-flowing character of the river would be allowed on public land.

Groups, Individuals, or Other Agencies' Interest in Designation or Nondesignation

The proponents of the Oregon High Desert Protection Act have recommended this stream as a National Wild and Scenic River. They published a brochure in the early 1990's, showing a list of their recommended rivers. Currently, they have no sponsor for their proposal.

Cost of Administration

The basic objective of Federal river designation is to protect and enhance the outstandingly remarkable values. Developing a management plan will depend upon the complexity of the issues associated with each designation.

Developing a management plan will require the following estimated cost:

Plan Development:

Resource Specialists	6 people for 3 WMs @ \$3,700	=	\$ 66,600
Management and Support	4 people for 1 WM @ \$4,000	=	\$ 16,000
Miscellaneous		=	\$ 5,000
Subtotal			\$ 87,600

Annual Management:

(signing, data collection monitoring)	=	\$ 10,000
---------------------------------------	---	-----------

Acquisition:

Purchase or exchange of private land, estimated at \$225./acre	=	\$556,707
Administrative cost of split-estate	=	NA
Total	=	\$654,307

No State or local agency has come forward and stated that they would be willing to share in the cost of administering this river segment, should it become part of the national system.

Bureau of Land Management's Ability to Manage

The Bureau of Land Management currently manages the Donner und Blitzen National Wild and Scenic River, with experienced personnel. The Home Creek drainage is currently within the Home Creek Wilderness Study Area and is being managed to protect wilderness values until Congress makes a determination on wilderness designation.

The Catlow redband trout are currently being managed as a sensitive species. All sensitive species will be managed or actions mitigated in such a manner as to conserve the species so as not to contribute to the need to list the species.

The South Steens Allotment Management Plan currently outlines the management of livestock, including cattle and wild horses. The Allotment Management Plan describes the present conditions for riparian, aquatic habitat, and upland, and outlines how this area will be monitored on a yearly basis.

Historic and Existing Rights

There are no known historic or existing rights within the studied portions of the creek.

Suitability Determination

The Bureau of Land Management has determined that the eligible 5.7 miles of Home Creek that is on public land is "not suitable" for inclusion in the National Wild and Scenic River system. The presence of the Catlow redband trout, is currently being managed as a sensitive species. The amount of private land within the system would make it difficult to manage.

The continued Bureau of Land Management policies, as described previously, will provide the same level of protection for the three listed outstandingly remarkable values for this stream, as would protection under the Wild and Scenic Rivers Act.

WILD AND SCENIC RIVER SUITABILITY EVALUATION MCCOY CREEK

Characteristics Which Do or Do Not Make the Area a Worthy Addition to the System

The diversity of wildlife habitat is the outstandingly remarkable value identified on public land, within the river corridor, and could contribute to the designation of a Wild and Scenic River. McCoy Creek is a free-flowing stream that has a high diversity of wildlife habitat including subalpine, meadows, springs, beaver dams, black cottonwoods, aspen, willows, cliffs, and talus slopes.

With a Wild and Scenic designation, it is possible that the management of activities that can affect the outstandingly remarkable value may have fewer options. For example, livestock grazing for cattle may be eliminated if this system is designated.

The stream segment would be difficult to manage due to the broken ownership, and the amount of private land that is found throughout the system.

Landownership Status and Current Management and Uses

The Andrews Resource Area administers approximately 18.2 miles of McCoy Creek, while approximately 12.6 miles are private property. Approximately 5,238.1 acres of public land are within the river corridor, while 3,161.4 acres are private land. Landownership is broken throughout

the system, with the majority of Bureau of Land Management land being in the headwaters of the system. This segment runs through approximately one section of split-estate land (State owns the minerals).

The geologic values of McCoy Creek are similar to other streams on Steens Mountain. McCoy Creek, like Kiger and Cucamonga Creeks, is north-flowing and is probably located along faults with at least minor displacement. The cap of ice that extended down to about 6,000 feet elevation during the Fish Lake advance of the Pleistocene glaciation on the Steens, moved downslope at right angles (westward) over the north-flowing McCoy Creek.

Later, during the Blitzen glacial advance, ice moved from the southern highlands and flowed northward along McCoy Creek for about 3 miles to about 6,760 feet elevation. Here the creek's cross-section shows an abrupt transition from U-shaped (glacially carved) to V-shaped (stream erosion). Lateral and ground moraines were locally deposited by the glacier. Steens Basalt lava flows are exposed in the canyon walls.

Steens Mountain, which includes the McCoy Creek drainage, falls within the Bureau of Land Management Visual Resource Management Class II. The objective of this class is to maintain the existing character of the landscape.

There are many opportunities for primitive types of recreation such as hunting, hiking, horseback riding, and fishing, but none of these are considered exceptional or unusual. The view from above the canyon is scenic, but similar to other views in this area.

McCoy Creek is within the Chimney grazing allotment and is currently divided into three pastures.

Inland redband trout, a sensitive species, is found throughout McCoy Creek and its tributaries. Nineteen sensitive species including the Malheur mottled sculpin, Steens Mountain carabid beetle, and Preble's shrew may be found in the area.

Bald eagle, a threatened species, winter in the lower reaches of McCoy Creek, while the American peregrine falcon, an endangered species, are migrants that use the area during spring and fall.

The Special Status plant, Castilleja pilosa v. Steenensis, is present at upper elevations on the ridge.

The variety of plant communities and geomorphic features provides summer habitat for an excellent diversity of wildlife species including mule deer and Rocky Mountain elk; cavity-nesting species in the black cottonwoods, western junipers, and aspens; black rosy finch (a rare species on public land); and sage grouse (a sensitive species) summering in the subalpine. Raptors nest in cliffs along the canyon.

The remaining botanical resources, within the McCoy Creek system, are interesting, but not unique to the area.

No archaeological inventory has been completed for the area, nor are significant historic values known to occur. One prehistoric site is located in the area and offers possibility for study or interpretation.

Reasonably Foreseeable Uses of the Land and Water which would be Affected by Designation and the Values that would be Affected if the Area is not Designated

Designation as a scenic river area would allow continuation of existing management for most activities, but could be curtailed if they impact the outstandingly remarkable value. As mentioned, livestock grazing could be eliminated due to designation. Recreation use would continue at the current level, until such a time that it was determined that impacts were occurring from overuse of the river corridor.

Scenic designation would preclude major diversions, hydroelectric power facilities, water supply or flood control dams, or other major streambank modifications along the river. Currently, there are no known applications for such stream modifications.

Groups, Individuals, or Other Agencies' Interest in Designation or Nondesignation

The proponents of the Oregon High Desert Protection Act have recommended this stream as a National Wild and Scenic River. They published a brochure in the early 1990's, showing a list of their recommended rivers. Currently, they have no sponsor for their proposal.

Cost of Administration

The objective of Federal river designation is to maintain the river's existing condition, and to protect and enhance the outstandingly remarkable values. Developing a management plan will depend upon the complexity of the issues associated with each designation.

Developing a management plan will require the following estimated cost:

Plan Development:

Resource Specialists	6 people for 3 WMs @ \$3,700	=	\$ 66,000
Management and Support	4 people for 1 WM @ \$4,000	=	\$ 16,000
Miscellaneous		=	\$ 5,000
Subtotal		=	\$ 87,600

Annual Management:

(signing, data collection, monitoring)	=	\$ 10,000
--	---	-----------

Acquisition:

Purchase or exchange of private land, estimated at \$300./acre	=	\$ 949,320
Administrative cost of split-estate acquisition	=	\$ 5,280*
Total	=	\$1,052,200

- * The administrative cost of split-estate acquisitions includes preparation of a mineral report by Bureau of Land Management staff. At this time, cost for the actual mineral estate cannot be determined because each parcel's mineral value is unknown without the detailed mineral report.

No State or local agency has come forward and stated they would be willing to share in the cost of administering this river segment, should it become part of the national system.

Bureau of Land Management's Ability to Manage

The Bureau of Land Management currently manages the Donner und Blitzen National Wild and Scenic River, with experienced personnel. If McCoy Creek was added to the National Wild and Scenic River system, the Bureau of Land Management would continue to manage the land and resources in the river corridor.

Portions of McCoy Creek are within the High Steens Wilderness Study Area and are being managed to protect wilderness values until Congress makes a determination on wilderness designation.

All sensitive species will be managed or actions mitigated in such a manner as to conserve the species so as not to contribute to the need to list the species. Whether or not the stream receives designation, the inland redband trout and the Malheur mottled sculpin would be managed and protected through application of Bureau of Land Management policy. Recreation use will continue at the current level until such a time that the use will impact the outstandingly remarkable value, within the McCoy Creek system.

Historic and Existing Use

There are no known historic or existing rights within the studied portions of the creek. The Bureau of Land Management would negotiate with the State of Oregon to seek fee title acquisition or exchange of the split-estate land.

Suitability Determination

The 18.2-mile segment of McCoy Creek, which is located on public land, is "not suitable" for inclusion in the National Wild and Scenic River system. The broken landownership (12.6 miles being private) would make it very difficult to manage. It is felt that the outstandingly remarkable values listed for McCoy Creek, are currently being protected under existing management.

The inland redband trout and the Malheur mottled sculpin will continue to be managed as sensitive species. All of the combined management activities for McCoy Creek, as previously described, will offer the same protection as found under the Wild and Scenic Rivers Act.

WILD AND SCENIC RIVER SUITABILITY EVALUATION MUD CREEK

Characteristics Which do or Do Not Make the Area a Worthy Addition to the System

The botanical values have been identified as the outstandingly remarkable value within the river corridor. An isolated patch of white fir, approximately 15 acres, is located along Little Fir Creek, which is a tributary of Mud Creek.

An error in the inventory shows that the tributaries of Mud Creek, within the headwaters, should not have been inventoried due to the amount of private land. These tributaries include Fence, Big, and Little Fir Creeks. The inventory was to start below the confluences of these tributaries, to the

Malheur National Wildlife Refuge boundary, a total of 7.2 miles. The isolated patch of white fir is located outside the inventoried stretch, in Little Fir Creek.

With a Wild and Scenic River designation, it is possible that the management activities that can affect the outstandingly remarkable values may have fewer options. For example, livestock grazing for cattle may be eliminated as a result of designation. Designation may also draw more people to the area, which could have an impact on the area.

Landownership Status and Current Management and Uses

The Andrews Resource Area administers approximately 7.2 miles of the lower reaches of Mud Creek. Approximately 2,133 acres of public land are within the river corridor. There is no private land within the lower reach. All the private land is located in the tributaries as described above.

The Steens Mountain fault-block tilts westward, forming a gentle western flank that extends upward from the Blitzen and Catlow Valleys for a distance of approximately 20 miles to the mountain crest. Mud Creek is incised into this western flank, exposing flows of Steens Basalt that are individually 10-30 feet thick and may be separated by soil horizons that developed by weathering during lulls in volcanic activity. The total thickness of the Steens Basalt flows is around 4,000 feet, but the creek walls expose no more than 400 feet maximum in any one stretch of this drainage. Parallel to the drainage are low mesas capped by ash-flowed tuff. During glaciation on Steens Mountain, less than 1-million years ago, an ice field called the Fish Lake Advance extended from the mountain crest westward almost 10 miles. The edge of the maximum extent of this ice field was at approximately 6,000 feet elevation, which is near the confluence of Fir and Fence Creeks. Land above this elevation may be hummocky and contain glacial erratics and kettle holes.

Steens Mountain, which includes the Mud Creek drainage, falls within the Bureau of Land Management Visual Resource Management Class II. The objective of this class is to maintain the existing character of the landscape.

Recreational use within the river corridor is primitive in nature such as hiking, backpacking, hunting, fishing, and sightseeing. Portions of Mud Creek are also part of the Bridge Creek Wilderness Study Area.

Livestock grazing does occur and is within the Mud Creek Allotment. The lower 50 yards of Mud Creek are used as a watering gap for livestock, while the rest of the drainage is within an exclosure.

Mud Creek contains inland redband trout and Malheur mottled sculpin, both Bureau of Land Management sensitive species. The stream also contains the other native fish species of the Malheur Lake basin.

Raptors nest along the steep canyon walls of Mud Creek Canyon. The upper portions of the area provide summer habitat for mule deer and Rocky Mountain elk. Mule deer make heavy use of the area during normal winters, but most of their use is outside the canyon. Wintering elk also make some use of the area.

Spotted frogs, a Federal candidate for Threatened and Endangered species, have been found in Mud Creek.

Chukars and valley quail are found in the area. Bald eagles, a Threatened species, make occasional use during the winter.

The botanical values were identified as outstandingly remarkable, because of the isolated groves of white fir found at the confluence of Little Fir Creek, is outside the inventoried section for Mud Creek.

The remaining botanical resources on public land, within the Mud Creek system, are not remarkable or unique to the area.

No archaeological inventory has been completed, nor are historic or prehistoric values of any significance known to occur within this area.

Reasonably Foreseeable Uses of the Land and Water which would be Affected by Designation and the Values that would be Affected if the Area is not Designated

If designated as a scenic river, management for most activities would be similar to the present situation, but could be curtailed if there are impacts to the system.

Recreation use would continue at the current level, until such a time that it was determined impacts were occurring from overuse of the river corridor. Livestock grazing is currently managed under the Mud Creek Allotment Management Plan, but could be eliminated due to designation. Wilderness Study Areas, fish and wildlife habitat would be maintained or possibly enhanced through long-term protection under the Wild and Scenic Rivers Act.

Scenic designation would preclude major diversions, hydroelectric power facilities, water supply or flood control dams, or other major streambank modifications along the river. Currently, there are no known applications for such stream modifications.

Groups, Individuals or Other Agencies' Interest in designation or Nondesignation

The proponents of the Oregon High Desert Protection Act have recommended this stream as a National Wild and Scenic River. They published a brochure in the early 1990's, showing a list of their recommended river. Currently, they have no sponsor for their proposal.

Cost of Administration

The objective of Federal designation is to protect and enhance the outstandingly remarkable values. Developing a management plan will depend upon the complexity of the issues associated with each designation.

Developing a management plan will require the following cost:

Plan Development:

Resource Specialists	6 people for 3 WMs @ \$3,700	=	\$66,600
Management and Support	4 people for 1 WM @ \$4,000	=	\$16,000
Miscellaneous		=	\$ 5,000
Subtotal		=	\$87,600

Annual Management:

(signing, data collection, monitoring)	=	\$10,000
--	---	----------

Acquisition:

Purchase or exchange of private land	=	NA
Administrative cost of split-estate acquisition	=	NA
Total	=	\$97,600

No State or local agency has come forward and stated they would be willing to share in the cost of administering this river segment should it become part of the national system.

Bureau of Land Management's Ability to Manage

The Bureau of Land Management currently manages the Donner und Blitzen National Wild and Scenic River, with experienced personnel. Mud Creek is within the Bridge Creek Wilderness Study Area, and is being managed to protect wilderness values until Congress makes a determination on wilderness designation.

All sensitive species will be managed or actions mitigated in such a manner as to conserve the species so as not to contribute to the need to list the species. Whether or not the stream receives Wild and Scenic designation, the inland redband trout and Malheur mottled sculpin would be managed and protected through application of Bureau of Land Management policies.

Historic and Existing Rights

There are no known historic or existing rights within the studied portions of the creek.

Suitability Determination

The Bureau of Land Management has determined that the 7.2-mile segment of Mud Creek is "not suitable" for inclusion in the National Wild and Scenic River system. An error was made in the inventory. The botanical outstandingly remarkable value, which describes the isolated patch of white fir, is located outside the segment of Mud Creek that has been inventoried.

The 7.2 mile stretch of Mud Creek has significant botanical values, which are common to the area. There are no outstandingly remarkable values for Mud Creek.

WILD AND SCENIC RIVER SUITABILITY EVALUATION PIKE CREEK

Characteristics Which Do or Do Not Make the Area a Worthy Addition to the System

Wildlife habitat diversity is the outstandingly remarkable value identified within the river corridor, and could contribute to the designation of a Wild and Scenic River. The excellent condition of riparian and upland vegetation is similar to other drainages located on the east side of Steens Mountain.

This drainage is one of nine streams in the Alvord Basin which provided habitat for a transplanted population of Lahontan cutthroat trout, a Federally listed fish species. Populations of this fish in the Alvord Basin are addressed in the Recovery Plan for the species as being important as a source for possible reintroduction of the species into streams in the Coyote-Willow-Whitehorse basin from which the original transplants came. The fish in Pike Creek are not native to the stream, so the effects of the introduction of the species on what is the native aquatic fauna are not known.

With a Wild and Scenic River designation, it is possible that the management activities that could impact the outstandingly remarkable values, may have fewer options. For example, livestock grazing for cattle may be eliminated as a result of designation. Designation may also draw more people to the area, causing increased recreation.

The lower portion of this segment, west of the county road, is private property. There is no legal public access to the Bureau of Land Management land from the county road. At the present time, this is one place that the Alvord Ranch is allowing the public to access a favorite camping site located on Bureau of Land Management land next to Pike Creek, however, this privilege could be denied at any time.

Landownership Status and Current Management and Uses

The Bureau of Land Management administers approximately 4.17 miles of Pike Creek. This land is all west of the county road and does not include the private property.

Land in the Pike Creek drainage is used for livestock grazing, recreation, and as wildlife habitat.

Pike Creek contains geologic values similar to other creeks in this region. Above about 6,400 feet elevation the drainage exposes lava flows and feeder dikes of the Steens Basalt with glacial cirques in the headwaters. Between 6,400 and 6,000 feet elevation are andesitic lava flows and pyroclastic rocks of the Steens Mountain Volcanics. Between 6,000 and 4,800 feet elevation are exposures of rhyolitic to dacitic lava flows and domes and minor tuffaceous sediments of the Pike Creek

Formation. Between 4,800 feet and 4,400 feet, the creek is in exposures of tuffaceous sediments of the Alvord Creek Formation. Below this, the creek is in landslide deposits and alluvial fan deposits to the valley floor.

The area is within the High Steens Wilderness Study Area and is being managed to protect wilderness values until Congress makes a determination. It is also within a Visual Resource Management Class II. The objective of this class is to maintain the existing character of the landscape.

Portions of Pike Creek are also within the Steens Summit Scenic Area of Critical Environmental Concern which includes 50,500 acres of the upper elevations of Steens.

Pike Creek is a free-flowing stream that has a high diversity of wildlife habitat including subalpine, meadows, springs, narrowleaf cottonwoods, willows, cliffs, and talus. This variety of plant communities and geomorphic features provides habitat for an excellent diversity of wildlife species. California bighorn sheep use the area yearlong. Heavy use by wintering mule deer occurs at lower elevations. Cavity nesting species use cottonwoods and western junipers. Raptors, including golden eagles and prairie falcon, nest in abundant cliffs. Chukar are common. Pika may be found at upper elevation talus slopes. Sixteen sensitive wildlife species may be found using the area including three Federally listed species. Bald eagle (Federal threatened) and American peregrine falcon (Federal endangered) are migrants that use the area, but sightings are uncommon.

Sensitive species include loggerhead shrike, yellow-billed cuckoo, ferruginous hawk, and others.

The stream contains Lahontan cutthroat trout as described earlier. This lower reach of Pike Creek was burned by wildfire in 1992, reducing the density and height of woody riparian species. Habitat of Lahontan cutthroat trout is of high quality, but is limited due to the small stream size and steep gradient.

There are no sensitive plant species identified in the area, but narrowleaf cottonwoods are rare in southeast Oregon.

One prehistoric archaeological site is located within the corridor, but it is not considered to be rare, and quite common to the area.

Most of Pike Creek has had considerable exploration for uranium and mercury with no recorded production. There are at least two prospect tunnels and about 1,000 feet of bulldozer cuts in addition to a road that extends about a mile up the canyon. The old road is mostly more than 50 feet above the creek and is not accessible beyond the canyon mouth. It probably once extended the entire length of the canyon but has since been obliterated by landslides and rockfalls.

Recreation use includes car camping, rockhounding, and hunting. Day hiking and backpacking are available, but limited opportunities are available compared to other places in the area. Angling is currently not permitted by the State in order to protect the Lahontan cutthroat trout.

Pike Creek is part of the Alvord Allotment which is grazed by cattle in the spring. The lower five percent is grazed while the upper portion is not used due to steep, rocky slopes.

Reasonably Foreseeable Uses of Land and Water which would be Affected by Designation and the Values that would be Affected if the Area is not Designated

If designated as a Wild and Scenic River, the management would be similar to the present situation, unless there are impacts to the outstandingly remarkable values. Livestock grazing could be eliminated due to designation. Recreational use would continue at the current level, until such a time that it was determined that impacts were occurring from overuse of the river corridor.

Until such time as Congress determines wilderness designation, the area would continue to be managed to protect those values.

Designation as a scenic river would preclude major diversions, hydroelectric power facilities, water supply or flood control dams, or other streambank modifications. No management activities that could adversely affect the fish habitat or free-flowing character of the river would be allowed on public land.

Groups, Individuals, or Other Agencies' Interest in Designation or Nondesignation

The proponents of the Oregon High Desert Protection Act have recommended this stream as a National Wild and Scenic River. They published a brochure in the early 1990's, showing a list of their recommended rivers. Currently, they have no sponsor for their proposal.

Cost of Administration

The objective of Federal river designation is to protect and enhance the outstandingly remarkable values. Developing a management plan will depend upon the complexity of the issues associated with each designation.

Developing a management plan will require the following estimated cost:

Plan Development:

Resource Specialists	6 people for 3 WMs @ \$3,700	=	\$ 66,600
Management and Support	4 people for 1 WM @ \$4,000	=	\$16,000
Miscellaneous		=	\$ 5,000
Subtotal		=	\$87,600

Annual Management:

(signing, data collection, monitoring)	=	\$10,000
--	---	----------

Acquisition:

Purchase or exchange of private land	=	NA
Administrative cost of split-estate acquisition	=	NA
Total	=	\$97,600

No State or local agency has come forward and stated they would be willing to share in the cost of administering this river segment should it become part of the national system.

Bureau of Land Management's Ability to Manage

The Bureau of Land Management currently manages the Donner und Blitzen National Wild and Scenic River, with experienced personnel.

Whether or not the system becomes designated, the overall watershed and the riparian area would be managed in compliance with the Biological Opinion to protect the habitat of the Lahontan cutthroat trout under Section 7 of the Endangered Species Act.

Other sensitive species will also be managed or actions mitigated in such a manner as to conserve the species so as not to contribute to the need to list the species.

Historic and Existing Rights

There are no known historic or existing rights within the studied portions of the creek. Historic mining has occurred in the past, as described earlier, but no valid mining claims are known to exist.

Suitability Determination

The Bureau of Land Management has determined that the eligible 4.2-mile segment of Pike Creek is "not suitable" for inclusion in the National Wild and Scenic River system.

The scars left from the exploration of minerals detract from the character of the stream. They include the old road, prospect tunnels, and disturbances from bulldozer work.

The issue with public access is uncertain. As mentioned, no legal access exists from the county road. Visitors to the area will have to find other ways to enjoy the recreational values of Pike Creek.

The presence of the Federally listed trout, the Wilderness Study Area status, the similarity of the adjacent streams along the east face of the Steens, the continued Bureau of Land Management riparian management policies will provide the same level of protection for the outstandingly remarkable value, as would designation under the Wild and Scenic Rivers Act.

This Page Intentionally Left Blank

Appendix O - Effects of Intensity and Season of Grazing

Introduction

Livestock impacts to vegetation resources, both negative and positive, occur due to defoliation and browsing, as well as the physical impacts associated with the presence of livestock. Although livestock grazing in desert steppe communities is seldom necessary to meet vegetation management objectives, negative impacts can be maintained within acceptable limits with implementation of appropriate management actions. Many successful livestock grazing strategies have been developed to achieve specific ecological or management objectives. The effectiveness of meeting objectives when implementing a given strategy depends on a number of factors including the associated resource values present, ecological characteristics present, physical characteristics present, and livestock management practices (Cook 1971; Heady 1975; Lacock and Conrad 1981; Holochek et al. 1989). General trends may hold true in the relative effectiveness of different grazing strategies to meet specific management objectives, but site-specific strategies are required to integrate the interactions of unique features present within a pasture. Though the ecological consequences of implementing a given grazing strategy occur at the pasture level or smaller, livestock operations dependent on public land forage resources require grazing schedules which support animals on public and private land throughout the year.

The consequences of short-term impacts of livestock use, both in upland and riparian communities, are related to the season in which livestock graze a vegetation community as well as the intensity and duration of use in a given year. Long-term consequences result from the sequence of annual use a vegetation resource receives, the severity of use, the competitive response of individual vegetation species to selective grazing or browsing by herbivores, and the resultant changes to community composition. Season and intensity of livestock grazing use in riparian communities, as well as in upland communities, has been found by a number of authors to affect riparian function and the attainment of other riparian-related objectives (Elmore 1991; Elmore and Kauffman 1993; Chapman 1987; Belsky et al. 1997; Kinch 1989; Myers 1987; and Platts 1989). Periodic opportunities for recovery of health and vigor and for recruitment of new individuals into upland and riparian communities are also required to maintain or improve vegetation conditions for the amenity values of current and potential vegetation resources as well as commodity production.

Intensity of Use

Short-term impacts to vegetation resources are the result of the combined utilization levels, the season of use, and the duration of use. For the purposes of analysis, light utilization is defined as up to 40 percent, moderate utilization is defined as from 41 to 60 percent, and heavy utilization is defined as 61 percent and greater. Generally, the vigor of key herbaceous species can be sustained with light and moderate utilization, while heavy utilization reduces photosynthetic tissue below levels needed to maintain root reserves, diminishing the vigor of key species. However, the timing of grazing use relative to plant phenology and the occurrence of repeat grazing are usually considered more important factors affecting the health and vigor of key species as well as changes to vegetation community composition. Light and moderate utilization during periods when plants are withdrawing reserves from roots for growth, during regrowth, or during seed formation will impact herbaceous species greater than the same level of utilization during periods when the plant is not actively growing. Additionally, the composition of a vegetation community, as it relates to the relative palatability of species present, will affect measured utilization. Long-term impacts of moderate to heavy utilization will also be dependent on the individual species' ability to maintain health and vigor and remain competitive with livestock use. Though stocking rates are established to limit utilization to light or moderate levels, factors affecting livestock distribution will cause some areas where animals tend to concentrate to be utilized heavy while other areas remain unused or only slightly used.

The intensity of livestock use will also affect other resource values, as well as the ability to meet management objectives as a result of standing vegetation material and ground cover remaining after use. As utilization levels are increased, canopy cover of grazed and browsed plants declines. Additionally, deposition of protective plant litter to the soil surface and incorporation of litter into the soil is decreased. As a result, increased utilization can reduce cover of bare ground by vegetation material and litter, increase puddling of

clay soils by raindrop impact, reduce rates of infiltration of precipitation, and reduce permeability and moisture storage of soils. Excessive utilization levels can contribute to increased overland flow of precipitation and snowmelt, soil erosion, siltation of streams, and a decline in surface water quality affecting beneficial uses.

Season of Use

Livestock impacts to public land resources are dependent on the season of use as it relates to timing of grazing during the growth cycle of plants, spacial and seasonal conflicts with annual life cycles of wildlife species, physical condition of resources, and other factors. All dates referenced are approximations dependent on elevation and climatic conditions and need to be interpolated on a site-specific basis. Analyzed seasons overlap due to variation in the growing conditions between years and a lack of clear seasonal divisions in anticipated impacts to existing or potential resource values. Thus, impacts resulting from livestock use early or late during any season may also be accurately defined by described impacts during the proximate season based on those variables.

Winter (November 1 to March 15)

Upland herbaceous plants are mostly dormant during the winter season of use with the exception of some photosynthesis by new growth after fall and winter precipitation and during warming weather trends, primarily on south exposed slopes. Forage quality of cured standing herbaceous vegetation is moderate to low, improving when mixed with new growth or browse from palatable shrubs. Light to moderate utilization of standing cured herbaceous vegetation is not detrimental to health and vigor of plants. Light to moderate defoliation of new growth usually is not detrimental to maintenance of health and vigor of herbaceous species since soil moisture will be available for spring and early summer growth, regrowth, and completion of the annual cycle prior to soil moisture depletion. Grazing of fall sprouting annual species may reduce competition with desirable perennial herbaceous species during the following growing season. Light to moderate utilization levels will retain adequate standing material and litter for soil protection from wind erosion, rainfall impact, and late winter and spring runoff. Heavy utilization levels will expose the soil surface to these negative impacts, especially on sites with marginal potential to produce a reasonable vegetation cover and in years with limited growth of protective vegetation cover. The potential for repeated grazing of localized areas, resulting in heavy utilization, is present with severe weather conditions and snow accumulation reducing livestock distribution. Negative impacts intensify on palatable shrub species when snow accumulation makes herbaceous species unavailable. Livestock management actions to maintain animal distribution are oftentimes limited by weather and accessibility.

Winter use is usually the least detrimental to soils and to dormant riparian herbaceous and woody vegetation. Herbaceous riparian species are mostly dormant in this season with some active photosynthesis occurring during warming trends when plants are free of snow and ice cover. During these fair weather periods, dormant woody riparian species may be used to some degree; therefore, may be subject to live twig growth being removed. Riparian communities tend not to be used by livestock during moderate weather conditions where cold air drainage settles into low-lying areas throughout the majority of the winter. Dramatic recovery rates have occurred in riparian areas when cold drainage patterns and/or the availability of alternate livestock water keep livestock away from streams. Where winter temperatures are moderate and cold air does not settle into low-lying areas, dormant woody riparian species can be negatively affected by browsing or trampling when livestock movement is restricted. The potential for livestock to concentrate in riparian communities to avoid severe weather conditions and attempt to drift to base property feeding grounds requires a high level of livestock management activity to avoid negative impacts to riparian vegetation resources at a time when access to public land is limited. Winter use provides rest during the growing period every year, promotes plant vigor, seed and root production, and seedling establishment. It may be the period of greatest use of browse species by both livestock and wildlife depending on temperatures, snow depth and duration, availability of other feed, animal concentration, forage/browse preference, and the extent of the woody plant community. A full understanding of expected livestock use patterns is necessary using this strategy or land use objectives

may not be achieved. Utilization levels of herbaceous riparian species should be limited to maintain adequate material on streambanks and floodplains for protection during late winter and spring runoff. Heavy grazing during the winter can eliminate the streambank vegetation mat needed to prevent soil erosion from winter and spring floods or ice events. Throughout the winter, frozen soil and streambanks are more resilient to mechanical damage thereby minimizing streambank shear, thus resulting in little bank damage.

Areas suitable for winter grazing by livestock are, at times, also prime winter range for native large herbivores. Spatial conflicts for habitat and conflicts for limited forage are more common than at other times of the year. With snow cover of herbaceous species, livestock browse of shrub species may remove a valuable winter source of feed for wild herbivores. Viability of mountain shrub species as well as aspen recruitment may be jeopardized with winter use of these vegetation communities by livestock.

Spring (March 1 to April 30)

Early growth of herbaceous species, primarily cool season species, occurs with rising soil temperatures. Minimal impacts to plant vigor and health occur with light to moderate utilization of early growth when adequate soil moisture is available for regrowth and completion of the annual growth cycle. Moderate utilization, in years with minimal soil moisture available for regrowth after use, could deplete plant vigor and health, especially during periods of critical growth. Heavy to severe defoliation can expose the soil surface to future erosive forces of wind and water. Additionally, heavy utilization can remove structural diversity valued for wildlife habitat. Use of palatable annual species early in this period may reduce competition with desirable native perennial species when grazing is removed and adequate soil moisture remains to complete growth cycles.

Early growth of herbaceous vegetation contains high water content and thus, when combined with leached old growth, has only moderate forage quality, improving after mid-March in most years. The hazard of compaction of wet soils with hoof action of livestock may be present, resulting in a reduction of infiltration and soil moisture holding capacity in fine-textured soils. Opportunities for good livestock distribution are present with more locations of available water and cool air temperature.

Riparian vegetation communities are less vulnerable to negative impacts from livestock use during this season for a number of reasons. Improving forage quality in upland communities will draw livestock from riparian communities as will available alternate water sources located outside streamside riparian communities. Spring use normally results in better livestock distribution between riparian and upland areas due to flooding of riparian areas and presence of highly palatable forage on the uplands. Also, cooler seasonal temperatures allow livestock to forage longer between visits to water sources. Opportunities for regrowth of herbaceous species are present through the remainder of the growing season. Most woody riparian species do not initiate growth until late spring, resulting in lower palatability than at other seasons of the year. If periods of use allow for adequate regrowth and do not correspond to the seasons of woody riparian species reproduction, grazing during this period can be very beneficial to riparian areas, especially in establishing woody plants. Conversely, this can be detrimental to upland grasses if grazing strategy results in utilization during the critical part (shoot elongation) of their growing season. Heavy defoliation and physical impacts by livestock can expose banks and floodplains to the hydraulic energy of high spring streamflow and peak runoff. Heavy use on finer textured soils in riparian areas with steep gradients may cause soil compaction, accelerated streambank losses or increased erosion rates. Hoof action can result in trampling of seed and litter into wet soil, although on some saturated soils, plants are more easily uprooted by grazing animals than would be possible later in the year. Care must be taken to prevent streambank hoof shearing and to leave adequate carryover vegetation for bank protection and silt filtering during spring runoff.

Wild native herbivores typically reach their lowest physical condition during this period, especially in years with heavy snowfall and limited forage availability. As a result, the potential for competition between livestock and wildlife species early during spring use is great on winter ranges. Activities associated with livestock management during this period can also increase stress to wildlife species, especially within areas

of raptor nesting habitat.

Upland Growing Season (April 1 to July 15)

Upland plants are actively growing, removing carbohydrates from roots and crowns for early growth, regrowth, and seed formation. Herbaceous plants are susceptible to defoliation impacts as a result of the depletion of carbohydrates in roots and crowns, especially with moderate to heavy utilization, repeated grazing, and/or frequent growing season use. Grass species are especially susceptible to impacts from defoliation during seed formation and seed stalk elongation, due to the increased withdrawal of carbohydrate reserves from roots and crowns. Opportunities for regrowth and completion of the annual growth cycle after defoliation are limited, especially in years of below average precipitation. Introduced perennial bunchgrass species are better adapted to maintaining vigor with defoliation than native herbaceous species, having evolved with the grazing pressure of more large herbivores. Soil compaction from the physical presence of livestock remains a concern with moist soils, especially in areas with shallow and fine-textured soils. Upland shrub species reach maximum growth withdrawing shallow soil moisture early and deeper water reserves as the season progresses. Opportunities for good livestock distribution during the early portion of this season are present with more locations of available water, high palatability of high quality forage, and cool air temperature. Repeated use during the growing season can be expected to reduce vigor and health of desirable perennial herbaceous species and lead to trends away from desired conditions.

Riparian vegetation communities initiate active growth during this season, especially during the later portion. Impacts to riparian resources are minimal with light to moderate utilization levels on herbaceous and woody species and minimal physical impacts. Livestock begin to concentrate in riparian vegetation communities as the season progresses for higher quality forage, browse, water, and shade with higher ambient temperatures. Opportunities for regrowth of herbaceous vegetation following use remain throughout the summer with available moisture in riparian soils. Desirable woody riparian species become vulnerable to impacts from moderate to heavy use mid-way through this season when active growth is initiated. Heavy levels of utilization or high levels of physical impacts can expose banks and floodplains to impacts from high streamflows during late spring and summer flooding.

Summer (July 1 to October 31)

A deferred season of use provides for livestock grazing after most of the upland species have reached seedripe stage and replenished carbohydrate reserves. Most upland plants, including native and introduced bunchgrass species, have completed their annual growth cycles and have entered senescence. As a result, upland communities have declining forage quality and lower palatability to wildlife and domestic herbivores. Livestock will tend to turn to palatable browse species, especially when herbaceous utilization levels become heavy late during this period, to maintain a given level of nutrition when mixed with lower quality herbaceous feeds. With the onset of senescence, native upland vegetation communities are less susceptible to negative impacts of light to moderate defoliation. Introduced perennial bunchgrass species are better adapted to maintaining vigor with defoliation than native herbaceous species, having evolved with more large herbivores. Heavy to severe defoliation can expose the soil surface to future erosive forces of wind and water. Livestock distribution away from water sources is limited by high ambient temperatures increasing the need for frequent watering and causing cattle to graze primarily during the evenings and throughout the night, while becoming less active during daylight hours. Localized impacts from defoliation and the physical presence of livestock intensify, especially near water sources and other areas of concentrated activity. Additionally, nutrient concentration will occur in areas of concentrated livestock activity.

Riparian vegetation species, both woody and herbaceous are actively growing with a sustained source of water available for continued photosynthesis. The potential for regrowth of herbaceous species remains through most of the summer, while soil moisture and temperatures are maintained. Regrowth of woody riparian species is limited after moderate to heavy use, especially late in the period. Forage value and palatability are high from standing riparian herbaceous and woody growth. The potential for poor livestock

distribution, away from riparian communities, exists as the availability of stock water in upland communities declines, forage value in upland communities declines, and with higher ambient temperatures. Livestock tend to concentrate in riparian vegetation communities for water, high quality green forage, and shade when intensive livestock management is lacking. Use during this period typically provides no rest during the growing period for plant vigor, reproduction, or litter accumulation and generally results in heavy utilization of woody riparian vegetation, trampling damage, soil compaction, and accelerated streambank erosion. Since rest is never provided, riparian plants do not replace food reserves in roots; seed may or may not be produced. Concentration of livestock in riparian areas results in heavy use of woody and herbaceous riparian species. Impacts to riparian values are typically greater during summer and early fall use than at other seasons of the year.

Competition between wildlife species and livestock is usually minimal when summer utilization levels are maintained at light to moderate levels. Those wildlife species that are mobile tend to inhabit portions of the range less used by livestock, while those less mobile species tend not to be significantly impacted so long as utilization levels and related management activities do not disrupt habitat and security.

Fall (September 15 to December 15)

Herbaceous upland plants remain senescent with minimal new growth and some regrowth during warming conditions when soil moisture has been replenished by fall precipitation. Upland herbaceous health and vigor is not impaired with light to moderate utilization of cured standing materials. Heavy to severe use may expose soils to erosion from wind and water for an extended period through the initiation of spring growth. Cooler ambient temperatures, with some fall regrowth of upland herbaceous species, may provide for better livestock distribution than during summer. Forage quality of upland herbaceous species remains low, though improving with the initiation of new fall growth. Livestock will retain a percentage of palatable browse species in their diets, when available, to maintain a given level of nutrition by combining it with lower quality herbaceous feeds.

Riparian herbaceous and woody species enter dormancy with cool temperatures and freezing conditions. Opportunities for limited livestock grazing of pastures containing riparian values are present so long as utilization levels on herbaceous and woody species do not impair riparian function with peak streamflows. Moderate to heavy use of riparian herbaceous species, with little opportunity for regrowth to facilitate sediment retention, may expose banks and floodplains to hydraulic forces of high streamflow during winter and spring runoff. The potential for improved livestock distribution, away from riparian communities, is greater than during summer use, though less than during spring use. During years with extended summer heat and drought, livestock water may be limited to riparian communities. Use during this season can be detrimental to riparian vegetation if heavy utilization of woody species occurs because temperatures are warm, fall green-up has not occurred, or utilization is not closely monitored. Fall grazing usually allows for less soil compaction in riparian areas; although streambank damage may be considerable from hoof action shearing if excessive fall precipitation occurs. Livestock impacts to riparian vegetation are directly related to the intensity of livestock management practices implemented by operators.

Livestock's use of big game winter range can limit the availability of both herbaceous and browse species for wildlife during subsequent winter periods as identified in the section on winter use. Competition between livestock and wildlife species increases with greater levels of utilization and the resultant increase of browse species in livestock diets.

Seasonlong

Seasonlong grazing of a pasture generally begins during the growing season and extends to the end of the period of authorized use, typically into the fall period. Many of the impacts associated with use during the growing season occur with seasonlong use. Additional impacts occur from localized livestock concentration late in the season as sources of water diminish, as forage quality in upland communities declines, and as

ambient temperatures rise. The effects of seasonlong grazing on species composition are largely dependent on the degree of utilization on the key species. Although the proposed stocking rates are designed to achieve moderate levels of utilization on most areas, factors such as terrain, location of fences and water, and vegetation types available, prevent uniform patterns of grazing. Heavy grazing will inevitably occur in some areas while light utilization will occur in others. A trend away from desired conditions is expected in areas receiving moderate to heavy utilization on an annual basis, especially when that use occurs during critical growing periods.

Livestock tend to concentrate in riparian communities from summer on, when these areas are available. Decreases in woody and herbaceous riparian species are expected to occur in streamside riparian vegetation communities accessible to livestock under seasonlong use. Livestock prefer green herbaceous and new growth of woody species within riparian communities as upland communities dry and lose forage quality in late summer. This strategy typically provides no rest during the growing period for plant vigor, reproduction, or litter accumulation. It generally results in heavy utilization of woody riparian vegetation, trampling damage, soil compaction, and accelerated streambank erosion.

No pastures in the planning area are scheduled for seasonlong (March 1 through February 28) grazing by domestic livestock, but wild horse use does occur seasonlong in HMAs.

Exclusion (No Scheduled Livestock or Wild Horse Use)

Defoliation of herbaceous and shrub species is limited to that which occurs from insect and native herbivore use. Except in instances when native herbivore numbers are high, upland utilization levels during the growing season and dormant seasons are light. In any year, small areas of concentrated native herbivore use may have moderate to high utilization levels. Residual standing herbaceous material and litter accumulation is greater than with scheduled use by livestock or wild horses in any season. Soil protection from rain impact is high, limiting erosion and improving soil structure and infiltration. The initiation of herbaceous growth with warming spring soil temperatures may be slightly delayed due to greater interception of solar radiation by standing and down litter.

The complete elimination of livestock and wild horses from riparian vegetation communities in many cases provides for a more rapid rate of recovery of both herbaceous and woody components than will scheduled use in any season. Residual herbaceous material and a diverse age structure of woody species will protect streambanks during peak flows of all seasons. In the absence of consideration of the ecological linkages between upland, riparian, and aquatic communities, potential rates of recovery of riparian communities may be limited when upland management plans are not designed to restore and protect the entire landscape.

Grazing Schedules

Livestock grazing schedules are implemented to provide opportunity for unacceptable resource conditions to improve, to maintain resource values which are consistent with the DRC and other management objectives, or to avoid unacceptable impacts to resource values or conflicts between uses of public land resources. Though some established grazing schedules provide for annual use of a pasture during one specified season, more often the mix of management objectives associated with a given pasture can better be met by varying the season of use over a repeating cycle of two or more years. Multi-year grazing schedules are primarily developed with varied seasons of use through an established rotation to allow desirable vegetation species the opportunity to regain vigor and health for future growth, productivity, and sustainability of resource values. Similarly, opportunities for recovery from grazing impacts to other resources, specific to a season of use, may be provided by varying the season in which livestock graze a pasture. Long-term and cumulative impacts of implementing a grazing scheme will define trend toward future vegetation communities and resource conditions.

Conversely, constraints necessary to meet multiple management objectives may limit opportunities for

grazing use to one short period annually, or no scheduled use in some years, to ensure that all management objectives are met. Examples include the compounding effects of objectives to improve riparian function or meet other riparian management objectives while maintaining upland stability and function. Though scheduled use during the upland growing season annually may be compatible with objectives to improve riparian function, health and vigor of desert steppe vegetation communities can seldom be improved or maintained with annual growing season defoliation. Similarly, scheduled deferment of grazing use until after seed-set may be compatible with meeting upland vegetation management objectives while not maintaining healthy riparian vegetation communities which support proper functioning condition. As a result, the combined objectives may further constrain opportunities for varied seasons of use.

Speciality Pastures

Construction of fences and use of other barriers to livestock movement may be utilized to create speciality pastures and implement grazing schedules consistent with meeting specific management objectives when resource values, such as riparian vegetation communities, are present in only a portion of an existing pasture. Development of speciality pastures is applicable in areas where resource values encompass a small enough area to justify fencing and to manage them separately from areas that are solely comprised of upland vegetation communities and few other resource values. Speciality pastures may continue to be grazed while meeting objectives or excluded from livestock use. Construction of fences to create corridor or riparian pastures allows riparian recovery or maintenance while allowing grazing of other uplands sites to occur with grazing strategies providing for more livestock use. Riparian pastures are normally areas of rangeland containing both upland and riparian vegetation communities large enough to support some livestock use while managed to attain riparian, water quality, and/or aquatic objectives, as opposed to stream side pastures created through corridor fencing. Total rest of riparian pastures is required at times during the first few years of corrective management of a deteriorated riparian area where the objective includes and the site potential supports the establishment of shrub or tree growth above the reach of livestock. As riparian vegetation within riparian pastures regains vigor and productivity, available forage for livestock use may often be increased while continuing to meet management objectives. Corridor pastures are generally excluded from livestock use, or used only for trailing purposes, since the areas enclosed are usually too small and narrow for proper grazing.

Grazing Rotations

Most multi-year grazing schedules can be defined as either a deferred-rotation or rest-rotation schedule. Both types of grazing schedules were designed primarily to promote plant vigor, seed production, seedling establishment, root production, and litter accumulation for herbaceous plants in upland ecosystems. Deferred rotation grazing schedules provide for one or more years of grazing use after seed-set, following one or more years of growing season use. In its simplest form, a deferred rotation grazing schedule within a pasture provides for a two-year rotation cycle with one year of use during the critical period of plant growth followed by one year of deferment of use until after the growing season. More conservative schedules provide for a higher proportion of deferment than years of use during the period of active growth. Rest-rotation schedules allow for similar opportunities for recovery with one or more years of the grazing rotation in which no use is scheduled. Caution should be implemented to ensure that higher levels of utilization during use periods of a pasture do not preclude meeting management objectives while providing for rest in other pastures. At moderate utilization levels, either rest-rotation or deferred-rotation grazing systems can allow for adequate recovery of upland herbaceous root growth and associated carbohydrate storage following the impacts of critical season defoliation. The number of years of rest or deferment necessary to meet vegetation management objectives is dependent on a number of factors including resource conditions, soil and climatic factors, and the intensity of grazing use. With an increase in the proportion of years of rest or deferred use to the number of years of use during the critical season, the opportunity for recovery and maintenance of plant health and vigor is improved. Recovery following heavy use during the critical growing season may require a substantial number of rest or deferment years to provide adequate opportunities for recovery of health and vigor, especially when growth conditions are poor or if the vegetation resource is in poor ecological condition.

Most rest-rotation and deferred-rotation grazing schedules, designed for the physiological needs of herbaceous upland plants, can be successful within wide, low gradient sedge, rush, and grass-dominated riparian sites, provided utilization levels in riparian communities are maintained within acceptable limits. These strategies have been found to maintain species diversity and productivity of meadow systems when use is deferred in these areas until after seedripeness. This promotes seed and root production, seedling establishment, and total growing period rest for each pasture every year. The need for additional livestock management may be necessary to maintain livestock distribution. Riparian herbaceous species having a natural potential to regrow following use provide for recovery and maintenance of resource values in years of the rotation when grazing occurs during the growing season. Caution in years of mid to late season use should ensure that cover necessary to buffer erosion from floods and ice is maintained and to trap sediment during high flow events. Similarly, in years of the rotation when grazing occurs during a season with high soil moisture, caution should be implemented to prevent trampling and shear damage to banks.

Rest rotation and deferred-rotation schedules are usually inappropriate for shrub-dominated riparian areas, especially in the primary stages of willow establishment and development. Establishment and growth of woody riparian species, which is attained in years when the pasture is rested or during a season of use compatible with progress toward attaining riparian objectives, may be nullified in years of use when grazing occurs during a period not consistent with maintenance or improvement of riparian values. Maintenance of established riparian communities containing a woody component may ultimately result in a population of only mature decadent stands of woody species, providing no ongoing replacement of younger stands. When these schedules are implemented, levels of use of woody riparian species must be monitored because utilization occurring during the summer months has been found to limit woody plant succession on gravel bars and other scoured areas along stream channels. Heavy utilization during late grazing periods can lead to removal of vegetation needed to protect streambanks from ice and water scouring.

Improvement of vegetation composition toward desired conditions may require recruitment of new individuals of desired species through seeding, planting or natural regeneration from vegetation materials on site. Establishment of desirable seedlings into a vegetation community may require a sequence of rest and/or deferment years to avoid defoliation and physical impacts of livestock presence. Similarly, recruitment of new shoots of desirable woody species in upland and riparian may require more than one year of rest to establish old wood, which is less palatable, and to allow growth above the reach of domestic herbivores. Removal of livestock from riparian vegetation communities may be required to allow these communities to recover herbaceous and woody species composition adequate to attain functioning condition. Upon improvement to functioning condition, a grazing schedule consistent with maintaining riparian function may be implemented.

Generally within desert steppe vegetation communities, no more than one period of use of a given pasture is planned in any one year's grazing schedule. An exception is spring/fall use in which livestock are removed in the spring while sufficient soil moisture is available for regrowth. Fall use occurs after most vegetation species have completed their growth cycle and are dormant. This schedule is used primarily within seedings of nonnative perennial bunchgrass to maintain productivity and availability of species adapted to grazing use.

Appendix P - Wildlife Habitat Descriptions and Considerations

Introduction

Chapter 2 describes the DRCs for land, resource, and social and economic conditions that are expected to be present on public land in 20 to 50 years if the plan management objectives are achieved. Since the DRCs are descriptions associated with long-term BLM management, they provide limited direction for wildlife habitat assessments and prescriptions over the next 20 years. Due to this limitation, Appendix P has been included here to provide more descriptions of habitat characteristics important to wildlife that will be incorporated into activity plans and evaluated in both the short and long term. The following text will help to explain how BLM intends to:

- 1) Meet the general wildlife objectives stated in Table 2.1 (Chapter 2 of the RMP/EIS) regarding riparian habitats, rangeland habitats, woodland habitats, and special status species.
- 2) Meet the quality of wildlife habitat that is implied in the S&Gs.
- 3) Provide a direct link to annual RMP progress, adopt appropriate objectives/terms/conditions in BLM activity plans, and prescribe appropriate activity plan monitoring.

This appendix is not intended to be an exhaustive list of criteria but it does address a wide variety of fundamental wildlife habitat issues. Due to economic and social constraints associated with implementation of this plan, it is assumed that some of these desired conditions and mitigations are not going to be fully attained at all times or in all places on the public land. Where they cannot be fully attained, it is assumed that either wildlife concerns have been outweighed by other resource, social, or economic values, or that site potential and other environmental factors such as weeds or frequent fire are preventing their attainment at the present time.

P-1: Wildlife Habitat Security and Disturbances

Security is a fundamental component of wildlife habitat health. Disturbance to habitat security (defined herein as unavoidable or unintended harassment to animals resulting from noise and activity) is known to adversely affect wildlife populations and productivity. Levels of big game winter mortality may increase where human activities cause additional physiological stress to animals already coping with intense cold and wet conditions. For species such as birds, annual recruitment of young may be diminished or eliminated altogether when disturbances occur during the nesting or mating season. Consequently, impacts to animal security during the breeding or wintering season that are caused by disturbance need to be avoided or minimized in BLM authorizations. Generally speaking, disturbances during the summer and fall time period have less potential to inflict serious adverse impacts to wildlife than when they occur during wintering or breeding seasons.

As a general rule, the public can expect that land use authorizations which may impact special status species, raptors, and big game will require some form of mitigation to protect habitat security values. Special stipulations may be applied for unique circumstances unforeseen in this document. Security threats to wildlife can originate from a wide range of activities which may include, but are certainly not limited to, OHV use, grazing, minerals exploration or development, recreational use, prescribed fire activities, or actions associated with rights of way. Road locations and densities typically play a very significant and interrelated role in protecting or diminishing wildlife security. Avoidance or mitigation of disturbing activities can usually be accomplished by prescribing adjustments to the timing, location, or duration of authorized actions. In some instances, project denial may be the only appropriate course of action where resource values are high and mitigation or avoidance cannot reasonably be made. The appropriate measures necessary for the protection of wildlife need to consider the nature of proposed actions, the species affected, and the time of year the action is expected to occur. Modifications and waivers may be applied to proposed actions that affect wildlife.

General wildlife seasons of use for the planning area are as follows:

Winter: Normally begins for most eastern Oregon wildlife by December and ends by early March.

Breeding: Normally begins in early March and extends through the month of June. A few species, such as owls, begin breeding in winter months.

Summer–Fall: Normally begins in July and extends through November.

P-2: Structural Projects

Powerlines should be configured and located according to the best current technical guidance for wildlife mitigation. The intent is to avoid or reduce the potential for instances of electrocution, collision, or avian predation (hunting perches that may affect some species such as sage grouse) or other avoidable adverse impacts. New power-lines should be installed within existing power line corridors whenever possible to limit the number of potential electrocution and collision hazard areas. “Suggested Practices for Raptor Protection on Power Lines” (1996) is one example of several technical references the BLM will use to provide protection for raptors.

Fences for livestock grazing administration will be designed to conform to BLM Manual 1737-1 which prescribes wire spacing and types (smooth, barbed, or net types) depending on the wildlife species that occupy a project area. These standards will accommodate most wildlife movements and minimize the risks of injuries or death due to entanglement and collisions. Fence routing needs to mitigate adverse consequences to wildlife especially in migration corridors and big game winter ranges. Proposed fence locations may be adjusted in order to avoid congregation of livestock in important wildlife habitats.

Escape ramps (expanded metal panels) will be installed in all new livestock troughs or installed in concert with scheduled maintenance in order to reduce or eliminate the potential for wildlife entrapment and drowning.

Spring sources developed for the purpose of delivering water into a livestock trough should leave some of the native source flow intact where possible. This will protect endemic molluscs, amphibians, or other wildlife vulnerable to spring dewatering. Exclosure fencing should accompany spring developments to protect wetland vegetation if grazing systems do not allow for the attainment of PFC (see Riparian/Wetland Areas sections of this document). Troughs connected with spring developments should be placed away from riparian and wetland habitats to reduce livestock trampling damage to wet areas. Trough overflow at springs should be controlled with float valves or else delivered back into the native channel.

Water developments such as reservoirs, pipelines, and guzzlers may benefit some species of wildlife such as antelope, chukar partridge, and bighorn sheep by providing new sources of drinking water. Judgment as to whether developed water will be an overall benefit or detriment to wildlife habitat and populations is dependent upon the area of consideration and the species effected. Maintaining habitats free of new water developments accessible to livestock will normally be considered a beneficial wildlife habitat conservation measure in high quality native range (refer also to P-3).

P-3: Grazing Use Considerations for Upland Habitats

Unless specified with rationale, the following factors would be considered consistent with the protection of most wildlife habitat values in activity plans.

Key area selection for monitoring activity plan performance (effectiveness monitoring) is based on habitat type, land-form, and/or fence locations at reasonable distances from water accessible to livestock or wild horses. One or more key species of wildlife and wildlife seasons of use need to be identified for activity plan evaluation purposes.

- 1) Grazing systems should incorporate periodic yearlong rest and/or growing season deferment.
- 2) Key grass forage species on native ranges should be grazed at stocking levels that allow for maintenance or improvement of plant vigor and recruitment of young plants.
- 3) Native range should be grazed in such a way that a patchy appearance comprised of lightly to moderately grazed and ungrazed areas is prevalent throughout most of the pasture. The rangeland may be topped, skimmed, or grazed substantially in patches. In so doing, a combination of seasonally important habitat values important to wildlife will be present including grazed (conditioned) forage plants and areas with high quality cover and structure (ungrazed or slightly grazed vegetation).

Livestock grazing described as a thorough search (heavy trampling, limited standing herbaceous cover, and uniformly grazed key forage plants) is limited to areas near watering facilities such as troughs and reservoirs. Heavy utilization patterns do not dominate the appearance of the landscape and vegetation structure at the end of the growing season. Most young plants are undamaged subsequent to grazing use and low value herbaceous plants are left ungrazed.

- 4) TNR livestock grazing use in native range should be avoided to protect forage, cover and structure values for wildlife. Where it is permitted for the attainment of other management objectives, TNR grazing use should conform to the general descriptions under Alternative C and be less than or equal to 40 percent as defined in this document.

- 5) Native upland range that is not grazed by domestic livestock is a desired wildlife habitat condition. It is generally in limited supply and typically provides very high quality structure and native forage for wildlife use. Maintenance of currently ungrazed native range conditions by avoiding new water developments, salting, and fencing is considered a beneficial mitigating measure for the protection of wildlife habitat values.

- 6) Crested wheatgrass seedings should be grazed periodically in such a way that spring or fall green-up or conditioned forage is available for Canada geese, big game, or other species. Light use and non-use by livestock in seedings for long periods of time will diminish green forage values for wildlife because grass plants become rank and unpalatable.

- 7) Green-up and conditioned forage: Green-up (new vegetative growth initiated by growing season moisture) is valuable to wildlife because it provides succulent, nutritious, and easily digested forage. Nearly all classes of wildlife from songbirds to big game can be observed consuming green-up whenever and wherever it is available throughout the year. Domestic livestock and wild horses also consume green-up for its palatability and nutritional qualities. The value of green-up for wildlife is highest on habitats used during the spring, winter, or fall.

The nutritious character of spring green-up prepares animals for the physiological demands of breeding activity and therefore it can be directly tied to animal population productivity. Where green-up is available on winter ranges it helps animals to maintain their physiological condition; therefore, it can be directly tied to population survival. Where green forage has been unavailable for prolonged periods due to drought or normal summer conditions, it helps to restore overall animal health and therefore it can be tied directly to

animal population recovery from cyclic or seasonal stress.

Conditioned forage (areas that have been burned or grazed by livestock) also tends to provide green vegetation that is sought out by wildlife. Consequently, grazing and burning can both be of benefit to wildlife by providing a higher volume and greater availability of succulent, nutritious, and easily digested forage. However, conditioned forage on native range from fires and grazing use is not in limited supply, resulting in limited need for more conditioned forage (resulting from livestock use) to benefit wildlife on native range. Moreover, the structural characteristics and values of shrubby cover will need to be carefully weighed before emphasizing the desirability of providing more conditioned forage on public land through prescribed fire (see P-5).

8) Quaking aspen (apart from riparian habitats) and mountain shrub species should exhibit healthy growth forms, structure and plant vigor. Uneven-aged stands of aspen and mountain shrubs should be prevalent and grazing systems should include rotations that allow for seed production and seedling establishment. Grazing systems need to allow for the likelihood of maintaining or improving forage, cover, and structural features important to game and nongame species.

P-4: Grazing Use Considerations for Riparian/Wetland Habitats

At a minimum, grazing use needs to be consistent with providing those conditions which are necessary to promote properly functioning riparian/wetland areas.

There is no single management strategy that will meet all riparian needs for wildlife and there is no single tool for measuring activity plan performance that can be applied in every riparian area. This is because riparian site potential and current conditions are highly variable. The appropriate tool for monitoring activity plan performance is determined by the important wildlife resources present. Specific riparian objectives therefore need to be applied at the activity plan level in light of all these variables.

Where vegetative trend is judged to be inadequate for establishing desired wildlife habitat conditions, a desired plant community (DPC) objective will be used to address wildlife habitat management in riparian areas. Where needed, DPC objectives will address one or more of the following habitat elements important to wildlife:

Systems capable of supporting woody and herbaceous species: age composition, structural characteristics (e.g., height, volume), species distribution, and abundance of key woody species. Distribution, composition, and abundance of key herbaceous species including grasses, forbs, sedges, and rushes. Reproductive success and grazing utilization of key herbaceous or woody species.

Systems with little or no capability to support woody species: distribution, composition, and abundance of key herbaceous species including grasses, forbs, sedges, and rushes. Reproductive success and grazing utilization of key herbaceous species.

P-5: Management of Vegetation Within Steppe Rangelands Occupied by Sage Grouse and Other Species that use Sagebrush Habitats

General Values of Shrubby and Herbaceous Cover for Wildlife

Wildlife diversity and productivity is profoundly influenced by the relative abundance, structure, and spatial arrangement of sagebrush communities. Management of sagebrush communities that is appropriate to soil, climate, and landform needs to incorporate the following overstory and understory components which contribute towards healthy wildlife habitats:

Shrub overstory: Big sagebrush, low sagebrush, and other shrubby species within the genus *Artemisia* provide primary sources of wildlife habitat structure, food, and cover.

Herbaceous understory: Grasses and forbs provide primary sources of wildlife habitat structure, food and cover. Herbaceous cover also provides indirect food sources for wildlife by supporting the environments that produce insects consumed by birds and other small animals.

Two important tables of habitat information are included in this section that will be used for wildlife habitat evaluation purposes: Table P-1 describes general relationships of wildlife use at various shrub overstory canopy measures; and Table P-2 describes the amount and arrangement of habitat that is desired at mid scales (GMAs) and fine scales (pastures). Used in combination, these two tables will enable the BLM to craft a multi-scale monitoring and assessment process that is able to address cumulative effects of management actions and determine whether or not future actions conform to Chapter 2 objectives for wildlife habitat in sagebrush rangelands.

Exceeding the fine scale (pasture level) percents (acreages) of Table P-2 may be necessary in order to compensate for currently fragmented habitats and/or where it is likely that fragmentation will continue due to fire history and frequency. Determining activity plan objectives can only be done after considering existing cover conditions at mid scales and larger, and in light of wildlife survey data. This will be accomplished as a part of the rangeland health assessment process.

In addition to sage-grouse, important species of wildlife that use big sagebrush habitats are:

Nongame species: sage thrasher, Brewer's sparrow, sage sparrow, black-throated sparrow, gray flycatcher, loggerhead shrike, pygmy rabbit, sagebrush vole.

Game species: mule deer, elk, and pronghorn.

Table P-1.—General habitat relationships of sagebrush canopy cover (as determined by line intercept) and herbaceous understory composition to wildlife habitat values and use

Class 1 No sagebrush canopy cover—

Class 1(A): Plant communities that are dominated by native grasses and forbs which generally provide a portion of habitat needs for sage-grouse and other wildlife that use sagebrush-steppe habitats. These plant communities are typically observed after fire, before sagebrush species recolonize. These plant communities are desirable to achieve in a patchy, mosaic pattern within the sagebrush-steppe, intermingled with Class 2(A, C), Class 3(A, B, C), Class 4(B), and Class 5(B:25 percent to near 35 percent canopy cover) plant communities.

Class 1(B): Plant communities that are dominated by introduced annual grasses and forbs such as cheatgrass, medusahead, and tumbled mustard, which do not provide habitat needs for sage-grouse and other wildlife that use sagebrush-steppe habitats. These plant communities are not desirable to sustain in their present condition if the sites are capable of supporting a sagebrush plant community(ies). Before converting to annual grasses

and annual forbs, these Class 1(B) plant communities were more likely to have been Wyoming big sagebrush or basin big sagebrush plant communities than either low sagebrush or mountain big sagebrush plant communities (Miller and Eddleman 2000). These plant communities are biologically and physically unstable because of high risk for repeated fire. High plant density of these annual plants, combined with great amounts of litter, effectively eliminate biological soil crusts. The combination of these conditions inhibit native plant recovery.

Class 1(C): Plant communities that are dominated by seedings of crested wheatgrass or other exotic perennial grasses which generally do not provide habitat needs for sage-grouse and other wildlife that use sagebrush-steppe habitats. These plant communities are lacking in sagebrush canopy cover either because a sagebrush seed source is lacking, or there has not been sufficient time elapsed for sagebrush species to recolonize the seeding. These plant communities are not desirable to sustain in their present condition if the sites are capable of supporting a sagebrush plant community(ies).

Class 1(D): Plant communities that are closed woodlands dominated by species such as western juniper. Particularly in the mountain big sagebrush and low sagebrush plant communities, western juniper encroachment and increasing density can result in near total loss of sagebrush canopy cover (Miller and Eddleman 2000). These Class 1(D) plant communities do not provide habitat needs for sage-grouse (sage-grouse did not select western juniper communities in central Oregon for nesting or winter habitat [BLM 1994; Miller and Eddleman 2000]) and other wildlife that use sagebrush-steppe habitats. In many of these plant communities, excessive livestock grazing pressure and/or fire suppression have been the main contributors to their formation. These plant communities have depleted herbaceous understories in addition to depleted shrub canopy cover, and could have depleted biological soil crusts if the sites are capable of supporting biological soil crusts. The depletion of the shrub, herbaceous, and biological soil crust cover can result in accelerated erosion on these sites. These plant communities are not desirable to sustain in their present condition if the sites are capable of supporting a sagebrush plant community(ies) and supported a sagebrush plant community(ies) before the western juniper encroached.

Class 2 Trace to 5 percent—

Class 2(A): Plant communities that are dominated by native grasses and forbs with some recruitment of sagebrush species, which provide a portion of habitat needs for sage-grouse and other wildlife that use sagebrush-steppe habitats. These plant communities are typically observed after fire, when sagebrush species are recolonizing. These plant communities are desirable to achieve in a patchy, mosaic pattern within the sagebrush-steppe, intermingled with Class 1(A), Class 2(C), Class 3(A, B, C), Class 4 (B), and Class 5(B:25 percent to near 35 percent canopy cover) plant communities.

Class 2(B): Plant communities that are dominated by introduced annual grasses and forbs such as cheatgrass, medusahead, and tumbled mustard, where sagebrush species are generally declining in abundance attributable to high fire frequency. These plant communities are typically not providing habitat needs for sage-grouse and other wildlife that use sagebrush-steppe habitats. These plant communities are not desirable to sustain in their present condition if the sites are capable of supporting a sagebrush plant community(ies). These plant communities are biologically and physically unstable because of high risk for repeated fire. High plant density of these annual plants combined with great amounts of litter effectively eliminate biological soil crusts. The combination of these conditions inhibit native plant recovery.

Class 2(C): Plant communities that are dominated by seedings of crested wheatgrass or other exotic perennial grasses where sagebrush species are in the early stages of recolonization. These plant communities might not be providing the complex shrub-grass-forb cover and food needs of sage-grouse and other wildlife that use sagebrush-steppe habitat, but if there is active recolonization of sagebrush species, the likelihood is high for providing future habitat needs. These plant communities are desirable to sustain if they are moving successional to greater abundance of sagebrush species.

Class 2(D): Plant communities that are woodlands dominated by species such as western juniper. Particularly in the mountain big sagebrush and low sagebrush plant communities, western juniper encroachment and increasing density can result in near total loss of sagebrush canopy cover (Miller and Eddleman 2000). These plant communities do not provide habitat needs for sage-grouse (sage-grouse did not select western juniper communities in central Oregon for nesting or winter habitat [BLM 1994; Miller and Eddleman 2000]) and other wildlife that use sagebrush-steppe habitats. In many of these Class 2(D) plant communities, excessive livestock grazing pressure and/or fire suppression have been the main contributors to their formation. These plant communities have depleted herbaceous understories in addition to depleted shrub canopy cover, and could have depleted biological soil crusts if the sites are capable of supporting biological soil crusts. The depletion of the shrub, herbaceous, and biological soil crust cover can result in accelerated erosion on these sites. These plant communities are not desirable to sustain in their present condition if the sites are capable of supporting a sagebrush plant community(ies) and if they supported a sagebrush plant community(ies) before the western juniper encroached.

Class 3 Greater than 5 percent, up to 15 percent—

Class 3(A): Plant communities supporting low sagebrush or Wyoming big sagebrush, with an understory of native grasses and forbs (typically about 10 percent grass canopy cover and less than 10 percent forb canopy cover), and intact biological soil crusts in interplant spaces, represent the potential natural vegetation for these plant communities (Miller and Eddleman 2000). Class 3(A) low sagebrush or Wyoming big sagebrush plant communities provide habitat needs for sage-grouse (such as winter habitat [Miller and Eddleman 2000]) and other wildlife that use sagebrush-steppe habitat. They are desirable to sustain in a patchy, mosaic pattern within the sagebrush-steppe, intermingled with Class 1(A), Class 2(A, C), Class 3(B, C), Class 4(B), and Class 5(B:25 percent to near 35 percent canopy cover) plant communities.

Class 3(B): Plant communities supporting basin big sagebrush or mountain big sagebrush, with an understory of native grasses and forbs, which are typically moving successional to greater abundance of sagebrush species and are not yet at the potential natural vegetation for these two plant communities. Despite this, Class 3(B) basin big sagebrush or mountain big sagebrush plant communities provide habitat needs for sage-grouse and other wildlife that use sagebrush-steppe habitat. Their presence in a mosaic, intermingled with Class 1(A), Class 2(A, C), Class 3(A, C), Class 4(B), and Class 5(B:25 percent to near 35 percent canopy cover) plant communities, should be considered desirable for sagebrush-steppe habitat. It should be recognized however, that these Class 3(B) plant communities are probably transitory and should be permitted to move successional to Class 4 (see Class 4(B) for more detail).

Class 3(C): Plant communities that are dominated by seedlings of crested wheatgrass or other exotic perennial grasses, where sagebrush canopy cover is on the increase attributable to sagebrush colonization. While not providing the quality of habitat that Class 3(A) or Class 3(B) plant communities do, because typically there is not a diverse grass or forb component in these seedlings, Class 3(C) plant communities do provide added structure because of the sagebrush, which provides habitat for some wildlife that use sagebrush-steppe habitat.

Class 4 Greater than 15 percent, up to 25 percent—

Class 4(A): Plant communities supporting low sagebrush or Wyoming big sagebrush, which typically show a decrease in native grass and forb canopy cover (particularly where sagebrush canopy cover is 20 percent or greater [Miller and Eddleman 2000]), and biological soil crust development, compared with Class 3(A) low sagebrush or Wyoming big sagebrush plant communities. Disturbances such as excessive livestock grazing pressure are often contributory to development of Class 4(A) plant communities (Miller and Eddleman 2000). Class 4(A) is not the potential natural vegetation, nor a desirable outcome, for these two plant communities when the inherent capabilities of soils, landform, and climate are factored in. However, Class 4(A) plant communities can provide some habitat needs for sage-grouse (such as winter habitat [Miller and Eddleman 2000]) and other wildlife that use sagebrush-steppe habitat.

Class 4(B): Plant communities supporting basin big sagebrush or mountain big sagebrush, with an understory

of native grasses and forbs, more often than not represent the potential natural vegetation for these plant communities. Class 4(B) plant communities provide habitat needs for sage-grouse (such as nesting and brood-rearing habitat [Miller and Eddleman 2000]) and other wildlife that use sagebrush-steppe habitat. Their presence in a mosaic, intermingled with Class 1(A), Class 2(A and C), Class 3(A, B, C), and Class 5(B:25 percent to near 35 percent canopy cover) plant communities, should be considered desirable for sagebrush-steppe habitat.

Class 4(C): Plant communities supporting mountain big sagebrush or low sagebrush, with tree seedlings (particularly western juniper) in the understory. Particularly in the mountain big sagebrush and low sagebrush plant communities, western juniper encroachment and increasing density can result in near total loss of sagebrush canopy cover (Miller and Eddleman 2000). These Class 4(C) plant communities currently provide habitat needs for sage-grouse and other wildlife that use sagebrushsteppe habitats. However, with continued growth and increasing density of the western juniper, sagebrush will decline and these plant communities will transition and at some point not provide habitat needs for sage-grouse and other wildlife that use sagebrush-steppe habitats. On many of these Class 4(C) plant communities, excessive livestock grazing pressure and/or fire suppression have been the main contributors to their formation. These plant communities are not desirable to sustain in their present condition if the sites are capable of supporting a sagebrush plant community(ies) and supported a sagebrush plant community(ies) before the western juniper encroached.

Class 5 Greater than 25 percent—

Class 5(A): Plant communities supporting basin big sagebrush or mountain big sagebrush, with an understory of native grasses and forbs, can represent the potential natural vegetation for these plant communities, particularly for canopy cover that ranges from 25 percent to less than 35 percent (Miller and Eddleman 2000). However, as sagebrush canopy cover approaches 35 percent, the understory of native grasses and forbs decreases. Class 5(B) basin big sagebrush or mountain big sagebrush plant communities can provide habitat needs for sage-grouse (such as nesting and brood-rearing habitat [Miller and Eddleman 2000]) and other wildlife that use sagebrush-steppe habitat (such as pygmy rabbit). Class 5(B) that has sagebrush canopy cover in the range of 25 percent to less than 35 percent is probably within the range of what the soils, landform, and climate would sustain for these two plant communities, whereas canopy cover Class 5(B) that approaches or exceeds 35 percent in these two plant communities is probably undesirable and a result of excessive livestock grazing pressure and/or fire suppression

Class 5(B): Plant communities supporting low sagebrush or Wyoming big sagebrush, which typically are depauperate in understory native grasses and forbs (Miller and Eddleman 2000) and often have an understory composed of exotic annuals such as cheatgrass and mustards. Understory native grasses, forbs, and biological soil crusts would be primarily restricted to microsites beneath shrub canopies and would rarely be found in interspace microsites. Disturbances such as excessive livestock grazing pressure are often contributory to development of Class 5(A) plant communities (Miller and Eddleman 2000). Although these low sagebrush or Wyoming big sagebrush plant communities can provide some habitat needs for sage-grouse (e.g. winter habitat; Miller and Eddleman 2000) and other wildlife that use sagebrush-steppe habitat, these Class 5(A) plant communities are not the potential natural vegetation, nor a desirable outcome, for these two plant communities when the inherent capabilities of soils, landform, and climate are factored in.

Each Table P-1 class has value and contributes towards meeting the yearlong needs of wildlife in terms of food, cover, and structure. ICBEMP science describes similar relationships and values.

Too much Class 1 and 2 or 4 and 5 habitat within a watershed will result in an imbalance in habitat productivity and connectivity for wildlife. An overabundance of Class 1 and 2 is indicative of undesirable conditions for wildlife due to shrub cover fragmentation. Conversely, an overabundance of Class 4 and 5, especially where there is a depleted understory, is indicative of undesirable conditions for wildlife because of limited herbaceous understory productivity (such as limited food sources for wildlife provided by herbaceous plants and insects).

In a healthy rangeland that supports multiple resource values, sagebrush canopy cover equal to or greater than 15 percent line intercept values may occur in patches (per ICBEMP Final EIS) within a community complex that is predominantly a Class 2 or 3 type. Class 4 or 5 types may also be reasonably interpreted as part of the natural complex site variability found in the sagebrush steppe (Miller and Eddleman 2000). In other words Class 4 or 5 types can be a natural product of soil, climate, and landform, and may often occur as transitional areas among Wyoming, Great Basin, and mountain sage shrub communities. Class 4 or 5 type may also be indicative of poor conditions due to grazing disturbance; these areas often support a depleted understory.

Class 4 or 5 types can be high value habitat features of a well connected, biologically diverse sagebrush landscape that is desirable for native, T&E, and locally important species of wildlife; such as Standard #5 in the S&G's. There are distinct site potential differences in shrub canopy and understory character that need to be incorporated into the management of Wyoming, basin, and mountain sagebrush communities at the fine scale.

Table P-2. - Desired Amounts and Arrangements of Sagebrush Habitats

Structural characteristics and general distribution at mid scales: Shrub cover capable of supporting the life history requirements of sage-grouse and other wildlife (such as Classes 3, 4, and 5 from Table P-1) that use sagebrush habitats should be present at multiple scales, over a large area, and in a variety of spatial arrangements (such as at a landscape level and with connectivity present). This should include a central core of sagebrush habitat which is present in large contiguous blocks as well as some other habitat arrangements such as islands, corridors, and mosaic patterns. Each of these patterns have significance to wildlife within geographic areas.

Wildlife objectives for sagebrush communities in individual pastures, allotments, and watersheds will be determined on the basis of factors such as: (1) presence of sage-grouse and their seasonal life history needs, (2) existing native shrub cover patterns and characteristics within each watershed, (3) the frequency and reasonably foreseeable likelihood of fire, and (4) locations of seedings and their shrub overstory conditions.

Shrub cover should be present that shows some mix of height and age classes but with an overall emphasis on the presence of communities with shrubs in a mature structural status per Thomas et al. (1984).

Big sagebrush shrub cover on native range at fine scales (pastures): Shrub overstories capable of supporting sage-grouse and other species that use sagebrush habitats should be present on at least 50 to 75 percent of the surface acreage of livestock management pastures capable of supporting big sagebrush communities. For example: a 1000-acre native-range pasture that is a Wyoming, mountain, or basin sagebrush type should provide shrub cover capable of supporting sage-grouse and other species that use sagebrush habitats on at least 500 to 750 acres (such as Classes 3, 4, and 5 from Table P-1).

Big sagebrush shrub cover on seeded range at fine scales (pastures): Shrub overstories capable of supporting sage-grouse and other species that use sagebrush habitats should be present on at least 25 to 50 percent of the surface acreage of livestock management pastures capable of supporting a big sagebrush community. For example: a 1000-acre seeded pasture that is a Wyoming, mountain, or basin sagebrush habitat type should provide adequate shrub cover capable of supporting sage-grouse and other species that use sagebrush habitats on at least 250 to 500 acres (such as Classes 3, 4, and 5 from Table P-1).

Herbaceous understory on native range at fine scales (pastures): Herbaceous understory composition throughout most native range habitats should exhibit multiple species of native forbs and grasses consistent with site potential at mid, late, or PNC seral stages.

Herbaceous understory on seeded range at fine scales (pastures): Herbaceous cover composition in seedings should support one or more adapted forb species.

P-6: Appropriate Management Actions in Sagebrush Habitats for Meeting Wildlife Habitat Needs

Appropriate management actions (BLM approved mechanical, chemical, biological, or fire-related means) that are consistent with management for wildlife in sagebrush ecosystems include:

- 1) Restore rangelands that are depleted in structure and plant composition due to past uses, fires, and weed invasions. Restoration with multiple native species is preferable to using introduced species such as crested wheatgrass. However, if native species cannot be established because (1) native seed sources are not available, or (2) intense competition from other undesirable vegetation is very likely to limit the success in establishing natives, then introduced grasses with a shrub component (crested wheatgrass and shrubs) will be considered preferable to taking no rehabilitation action at all. Fire and weed threats to remaining areas of good quality native range need to be reduced or eliminated where possible.
- 2) Reduce the level of western juniper encroachment into rangeland sites that threaten sage-grouse as a result of habitat loss and hunting perches for avian predators. Use mechanical means, rather than fire, where the risk of exacerbating fire cycles associated with invasive species (such as cheatgrass) is high.
- 3) Modify landscape character in monotypic stands of sagebrush where there is reason to believe that such action would enhance wildlife habitat values and not further exacerbate problems associated with fragmentation.
- 4) Restore habitat complexity, diversity, and structure in at least portions of rangelands currently dominated by monoculture stands of adapted grasses (nonnative). This action is considered appropriate if the area is judged to be of substantial consequence to the connectivity of individual geographic areas and the outcome would benefit critically important wildlife habitats (such as areas of concentrated or otherwise highly significant wildlife use).
- 5) Delay the timing of certain crested wheatgrass retreatments (treatments for the purpose of encouraging more grass production) where the status of sage-grouse winter use and breeding activity is uncertain. Prescribe treatments based on documented field survey data that address sage-grouse absence or presence.
- 6) Use cultural practices to establish greenstrips in order to diminish the chances for further loss of quality sagebrush habitats to wildfire. This is especially true for quality sage-grouse habitats that adjoin fire prone, cheatgrass-dominated areas.
- 7) Where necessary, bring livestock utilization levels or seasons of use into conformance with herbaceous cover requirements in sage-grouse nesting habitats.

P-7: Western Juniper Woodland Management Considerations

Habitats that support western juniper should provide the following kinds of characteristics important to wildlife:

- 1) Patches of thermal and hiding cover sufficient to meet the habitat requirements of mule deer and elk.
- 2) Scattered mature trees suitable for nesting raptors such as ferruginous hawks.
- 3) Limited juniper presence in rangelands where sage-grouse forage and cover values are threatened or where predation by raptors may be affecting limited grouse populations.
- 4) Maintenance of all large trees (approximately 24-inch diameter measured one foot above ground) with

nesting/hiding cavities used by various species of small mammals and birds.

5) Downed trees for small animal refugia and big game hiding cover.

6) Vegetation mosaics within project sites so that the result of treatments is approximately 50 percent juniper habitat and 50 percent shrub/grassland habitat. The patch size and layout of cover types resulting from projects (burning or cutting) is dependent upon wildlife that use the area and cover conditions within the geographic area being effected

P-8: Bighorn Sheep Guidelines

Management pertaining to bighorn sheep, domestic sheep, and goats is specified within the BLM “Revised Guidelines for Management of Domestic Sheep and Goats in Native Wild Sheep Habitats” (1997). These guidelines, which may be modified by agreement among the parties involved, will be reviewed at least every five years by a work group of representatives from the livestock industry, State wildlife agencies, BLM, and native wild sheep organizations.

P-9: Calculation of Big Game Forage Demand

Big game numbers used to set forage demand in this plan were supplied by the State of Oregon, Department of Fish and Wildlife, and are based on State-approved management objectives (MOs) and benchmark levels by seasons of use and grazing allotment.

Adhering to the descriptions of grazing use in P-3 of this section would allow BLM to meet upland wildlife forage needs within the the planning area. Conflicts regarding forage availability for wildlife will be addressed on a case basis within periodic rangeland health evaluations. Evaluations may disclose the need for an allotment-specific wildlife forage allocation where desired conditions described under upland utilization are not being met.

Bighorn sheep forage demand was not calculated in Appendix E. Specific locations of bighorn sheep use at the pasture level throughout the plan area was not possible. Nevertheless, bighorn sheep forage will be considered in the course of evaluations similar to pronghorn, deer, and elk.

Big game forage demand in Appendix E, Allotment Summaries, was established by using the three mathematical calculations described below. These calculations are consistent with the “Three Rivers Resource Management Plan” (1991) in Burns District, and they use locally adapted studies on dietary overlap cited in Vavra and Sneva (1978).

Mathematical Calculations Used for Determining Wildlife Forage Demand

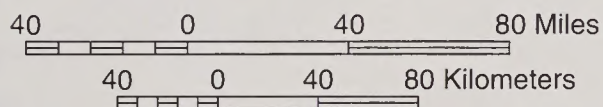
1) Land ownership differences: The percentage of the grazing allotment administered by BLM was multiplied by the MO/benchmark number to determine the number of big game supported on public land versus other ownerships such as state or private.

2) Body mass differences: The number of big game at MO/benchmark levels supported on BLM lands was then divided by a factor of 5.3 (for deer), 7.0 (for pronghorn), and 2.4 (for elk) to determine the number of each species that would potentially consume forage equal to one AUM, which is defined as 800 pounds of air dry forage. (The figure derived from this calculation is referred to as the unadjusted forage demand because it does not factor the dietary differences between livestock and big game.)

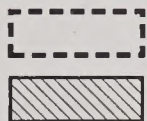
3) Dietary preference differences: The unadjusted forage demand was then multiplied by factors of 0.18 for deer, 0.10 for antelope, and 0.70 for elk to reflect the differences in forage preferences between livestock and big game (this figure is referred to as the adjusted forage demand).

For example: The adjusted big game forage demand (sometimes referred to as the competitive AUMs) needed to support 50 mule deer on an allotment with 80 percent public land over a period of 12 months would be 16.3 AUMs using the following calculation:

$[50 \text{ deer} \times 12 \text{ months} \times 18 \text{ percent dietary overlap} \times 80 \text{ percent public land}] \div 5.3 \text{ deer per AUM}.$



LEGEND



Planning Area

Cooperative Management
and Protection Area

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

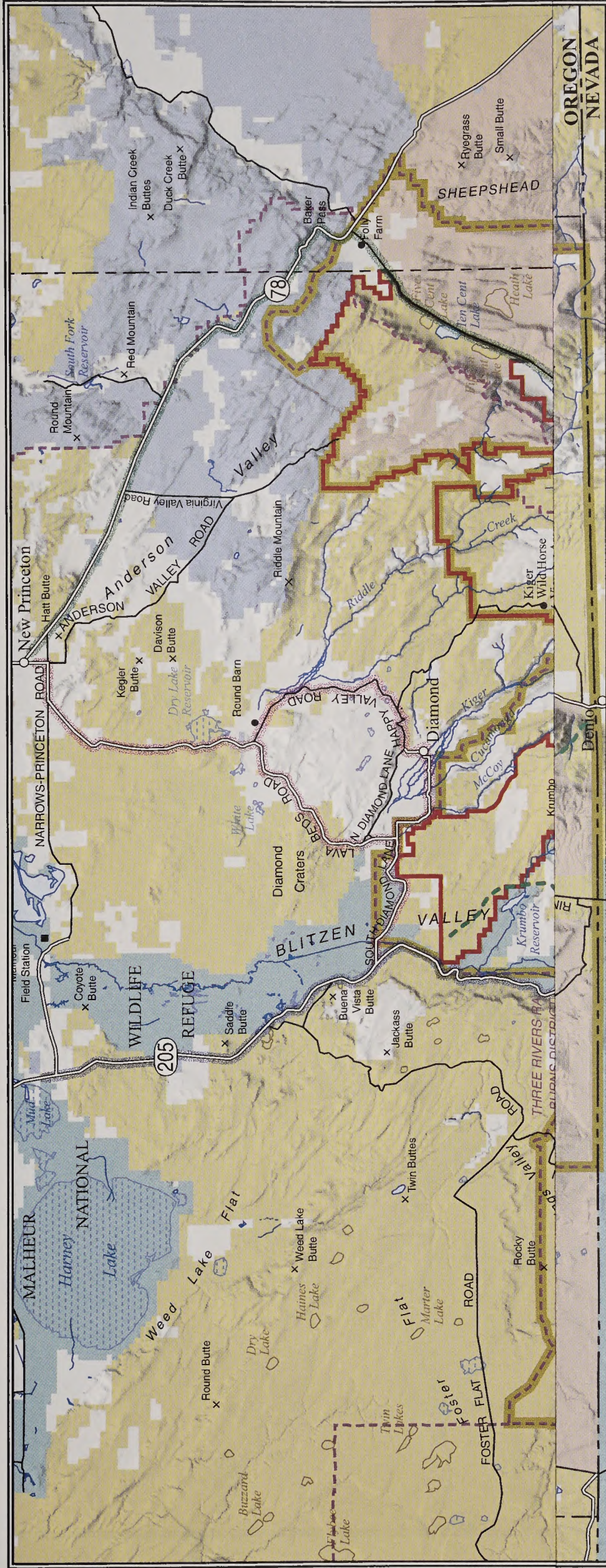


BURNS DISTRICT

**Andrews Management Unit /
Steens Mountain Cooperative
Management and Protection Area
Draft Resource Management Plan
2003**

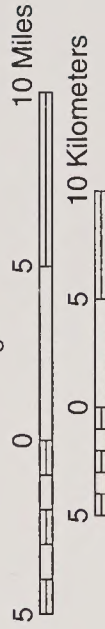
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 1.1: Location of the Planning Area



LEGEND

- | | | | |
|--|--------------------|--|---|
| | Campground | | Paved Road |
| | Overlook | | Non-Paved Improved Road |
| | State Tour Route | | Cooperative Management and Protection Area Boundary |
| | State Scenic Byway | | Planning Area Boundary |
| | Backcountry Byway | | Resource Area Boundary |
| | High Desert Trail | | BLM Administered Land |
| | | | Wilderness |
| | | | Wilderness Study Area |
| | | | U.S. Fish and Wildlife Service Land |
| | | | State Land |
| | | | Private Land |



BURNS DISTRICT

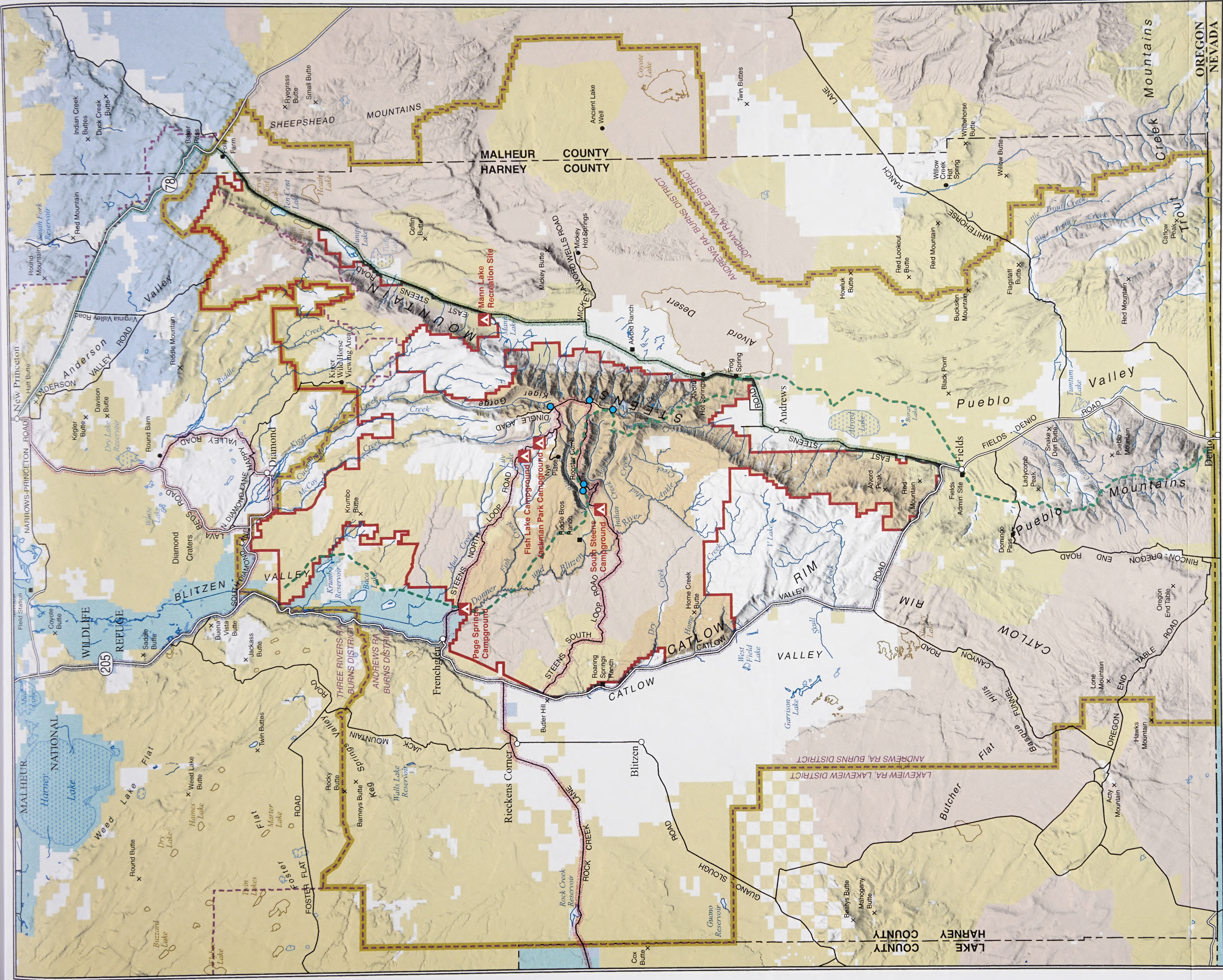
Andrews Management Unit / Steens Mountain Cooperative Management and Protection Area Draft Resource Management Plan 2003



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

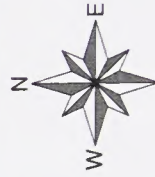
Map 1.2: Administered Lands

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management



LEGEND

- | | | | |
|--|--------------------|--|---|
| | Campground | | Paved Road |
| | Overlook | | Non-Paved Improved Road |
| | State Tour Route | | Cooperative Management and Protection Area Boundary |
| | State Scenic Byway | | Planning Area Boundary |
| | Backcountry Byway | | Resource Area Boundary |
| | High Desert Trail | | BLM Administered Land |
| | | | Wilderness |
| | | | Wilderness Study Area |
| | | | U.S. Fish and Wildlife Service Land |
| | | | State Land |
| | | | Private Land |



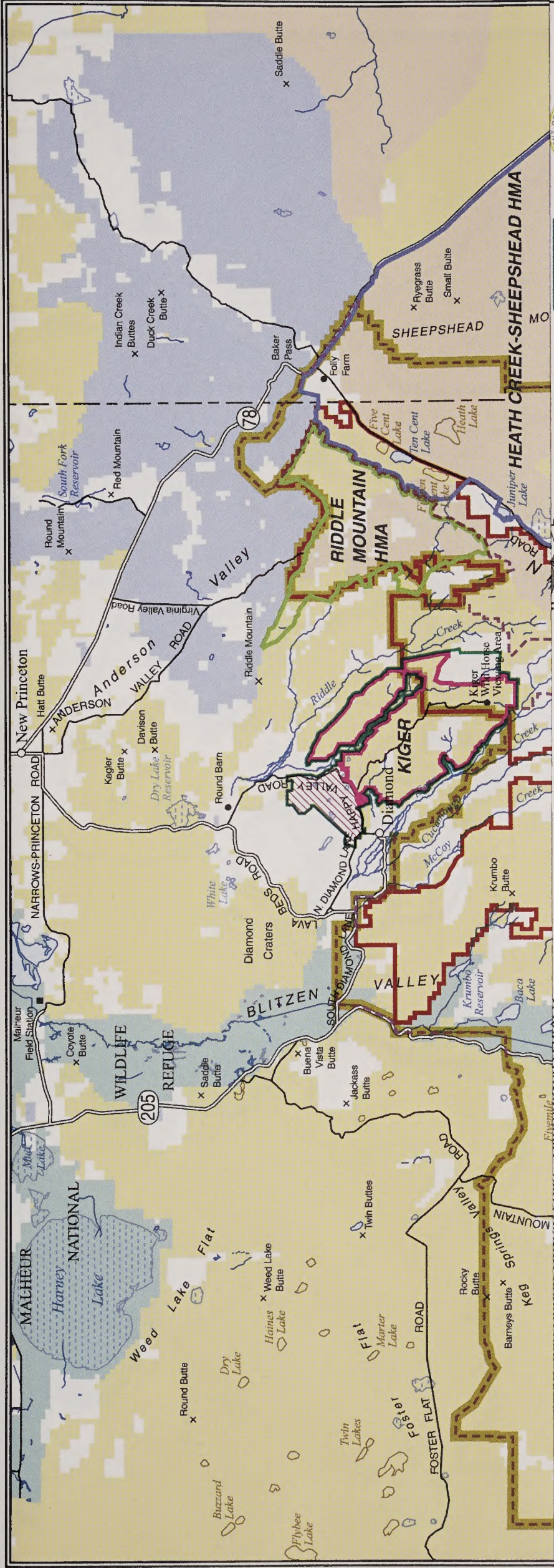
BURNS DISTRICT

Andrews Management Unit /
Steens Mountain Cooperative
Management and Protection Area
Draft Resource Management Plan
2003



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 1.2: Administered Lands



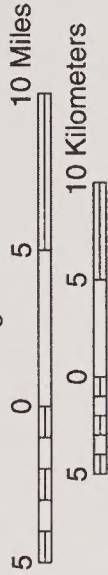
- Herd Area**
- Kiger Alternative A
 - Kiger Alternative D
 - South Steens Alternative A
 - South Steens Alternative D
 - Pueblo-Lone Mountain - Alternatives A and D
 - South Catlow - Alternatives A and D
 - Kiger - Alternative D
 - South Steens Alternative A
 - South Steens Alternative D

Heath Creek-Sheepshead - Alternatives A and D
Riddle Mountain - Alternatives A and D

- Paved Road
- Non-Paved Improved Road
- Cooperative Management and Protection Area Boundary
- Planning Area Boundary
- Andrews Resource Area Boundary
- BLM Administered Land
- Wilderness
- Wilderness Study Area
- U.S. Fish and Wildlife Service Land
- State Land
- Private Land

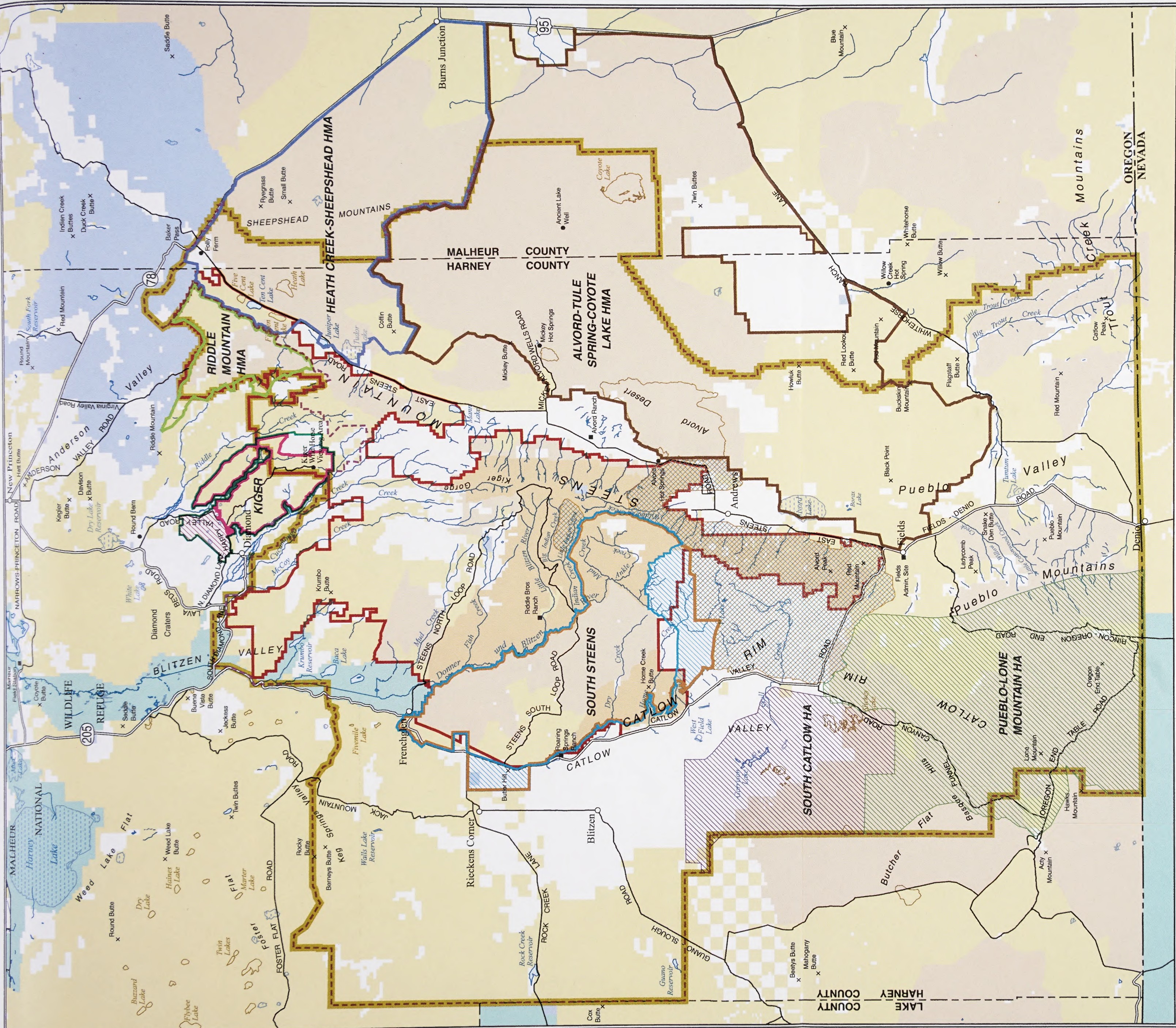


BURNS DISTRICT
Andrews Management Unit /
Steens Mountain Cooperative
Management and Protection Area
Draft Resource Management Plan
2003



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 2.1: Proposed Herd Areas and Herd Management Areas within the RMP Area - Alternatives A and D



LEGEND

- Herd Management Area

Alford-Tule Spring-Coyote Lake - Alternatives A and D

Heath Creek-Sheepshead - Alternatives A and D

Riddle Mountain - Alternatives A and D

Kiger

Alternative A

Alternative D

South Steens

Alternative A

Alternative D
- Herd Area

Pueblo-Lone Mountain - Alternatives A and D

South Catlow - Alternatives A and D

Kiger- Alternative D

South Steens Alternative A

Alternative D
- Paved Road

Non-Paved Improved Road

Cooperative Management and Protection Area Boundary

Planning Area Boundary

Andrews Resource Area Boundary

BLM Administered Land

Wilderness

Wilderness Study Area

U.S. Fish and Wildlife Service Land

State Land

Private Land

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

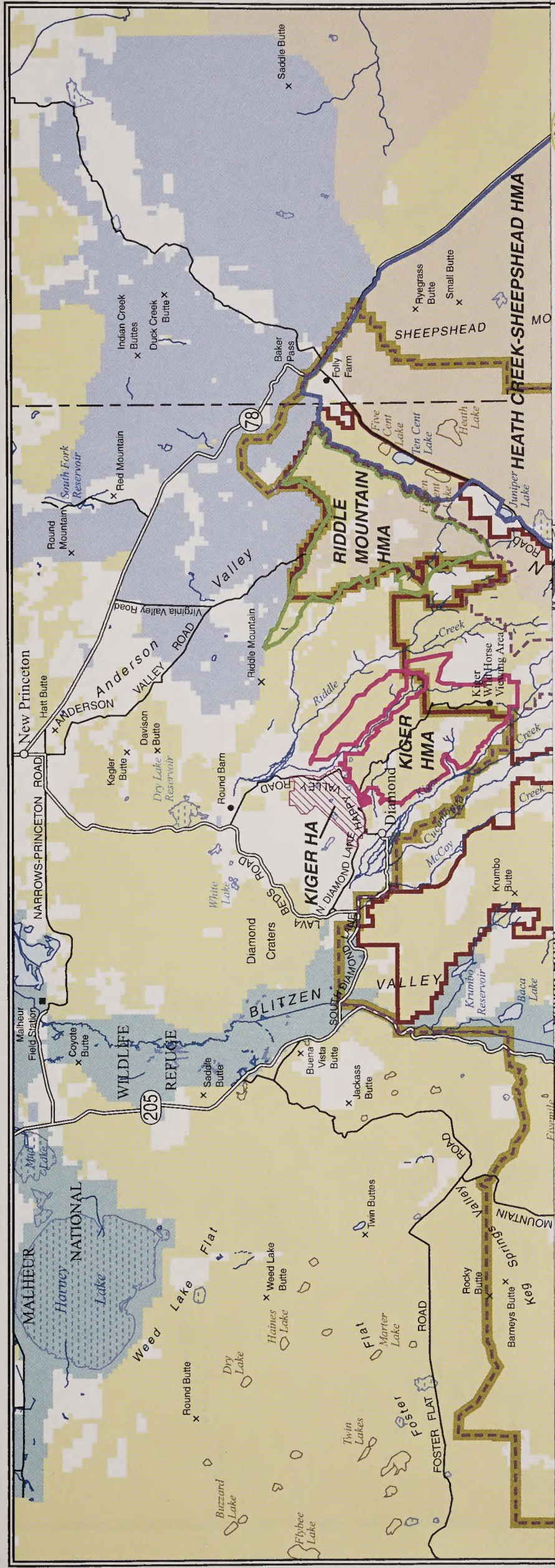
5 0 5 10 Miles
5 0 5 10 Kilometers

**Andrews Management Unit /
Steens Mountain Cooperative
Management and Protection Area
Draft Resource Management Plan
2003**



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 2.1: Proposed Herd Areas and Herd Management Areas within the RMP Area - Alternatives A and D



- Alvord-Tule Spring-Coyote Lake
- Heath Creek-Sheephead
- Kiger
- Riddle Mountain
- South Steens

- Herd Area
- Kiger
- Pueblo-Lone Mountain
- South Catlow
- South Steens

- Non-Paved
- Improved Road
- Cooperative Management and Protection Area Boundary
- Planning Area Boundary
- Andrews Resource Area Boundary
- BLM Administered Land
- Wilderness
- Wilderness Study Area
- U.S. Fish and Wildlife Service Land
- State Land
- Private Land



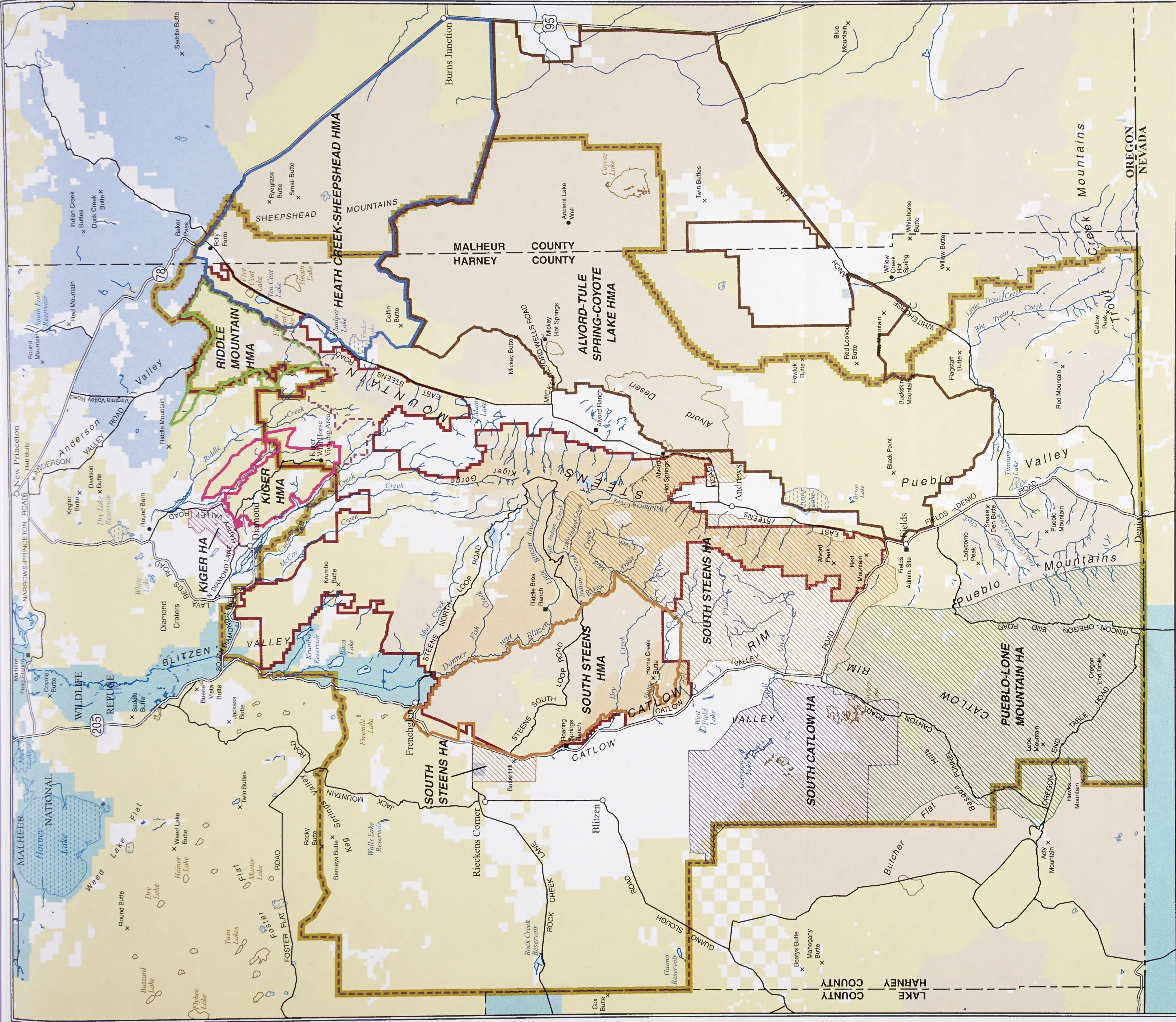
BURNS DISTRICT

Andrews Management Unit / Steens Mountain Cooperative Management and Protection Area Draft Resource Management Plan 2003



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 2.2: Proposed Herd Areas and Herd Management Areas within the RMP Area - Alternatives B and C



LEGEND

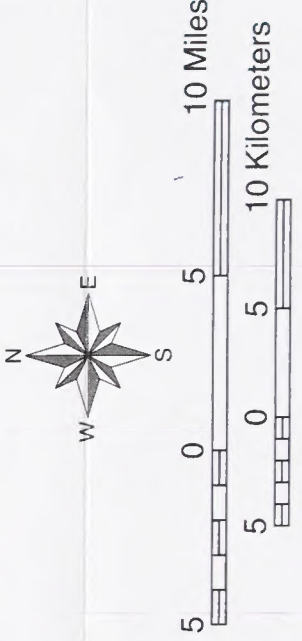
- | | |
|--|----------------------|
| Herd Management Area | Herd Area |
| Alvord-Tule Spring-Coyote Lake | Kiger |
| Heath Creek-Sheepshead | Pueblo-Lone Mountain |
| Kiger | South Catlow |
| Riddle Mountain | South Steens |
| South Steens | |
| Cooperative Management and Protection Area Boundary | |
| Planning Area Boundary | |
| Andrews Resource Area Boundary | |
| BLM Administered Land | |
| Wilderness | |
| Wilderness Study Area | |
| U.S. Fish and Wildlife Service Land | |
| State Land | |
| Private Land | |

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management



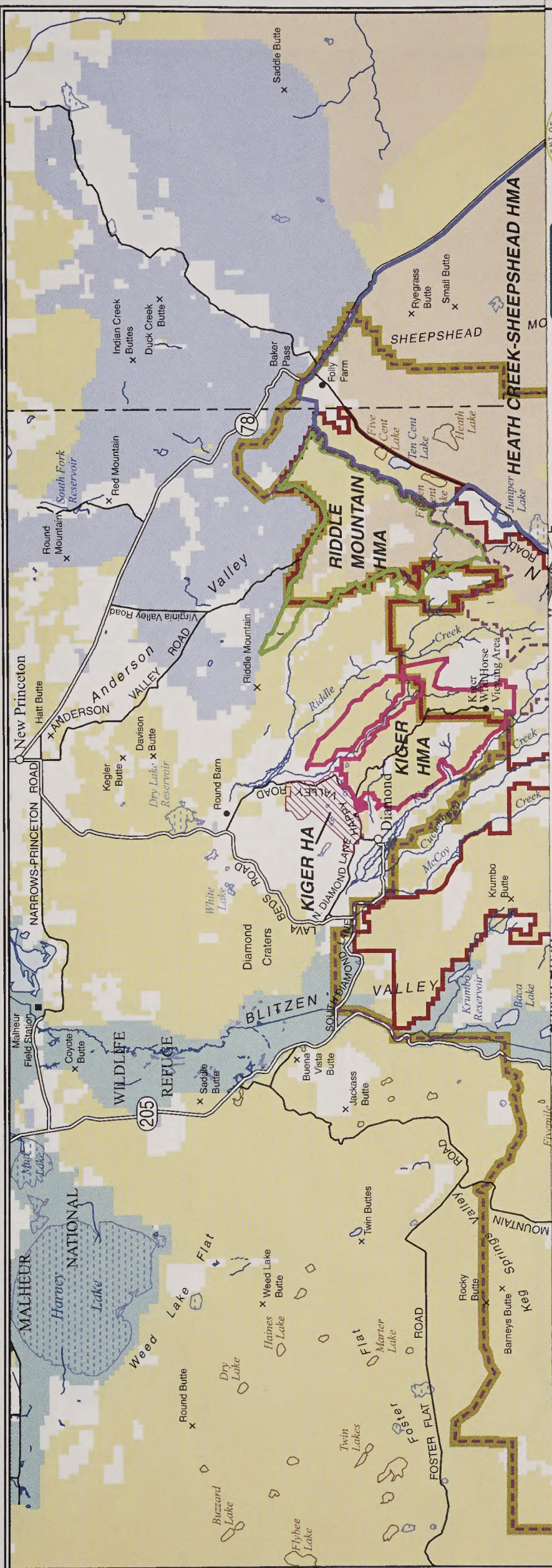
BURNS DISTRICT

Andrews Management Unit /
Steens Mountain Cooperative
Management and Protection Area
Draft Resource Management Plan
2003



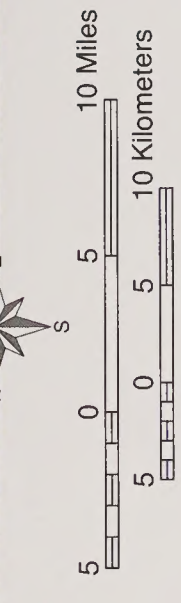
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 2.2: Proposed Herd Areas and Herd Management Areas within the RMP Area - Alternatives B and C



- Alvord-Tule Spring-Coyote Lake
- Heath Creek-Sheepshead
- Kiger
- Riddle Mountain
- South Steens

- Non-Paved Improved Road
- Cooperative Management and Protection Area Boundary
- Planning Area Boundary
- Andrews Resource Area Boundary
- BLM Administered Land
- Wilderness
- Wilderness Study Area
- U.S. Fish and Wildlife Service Land
- State Land
- Private Land



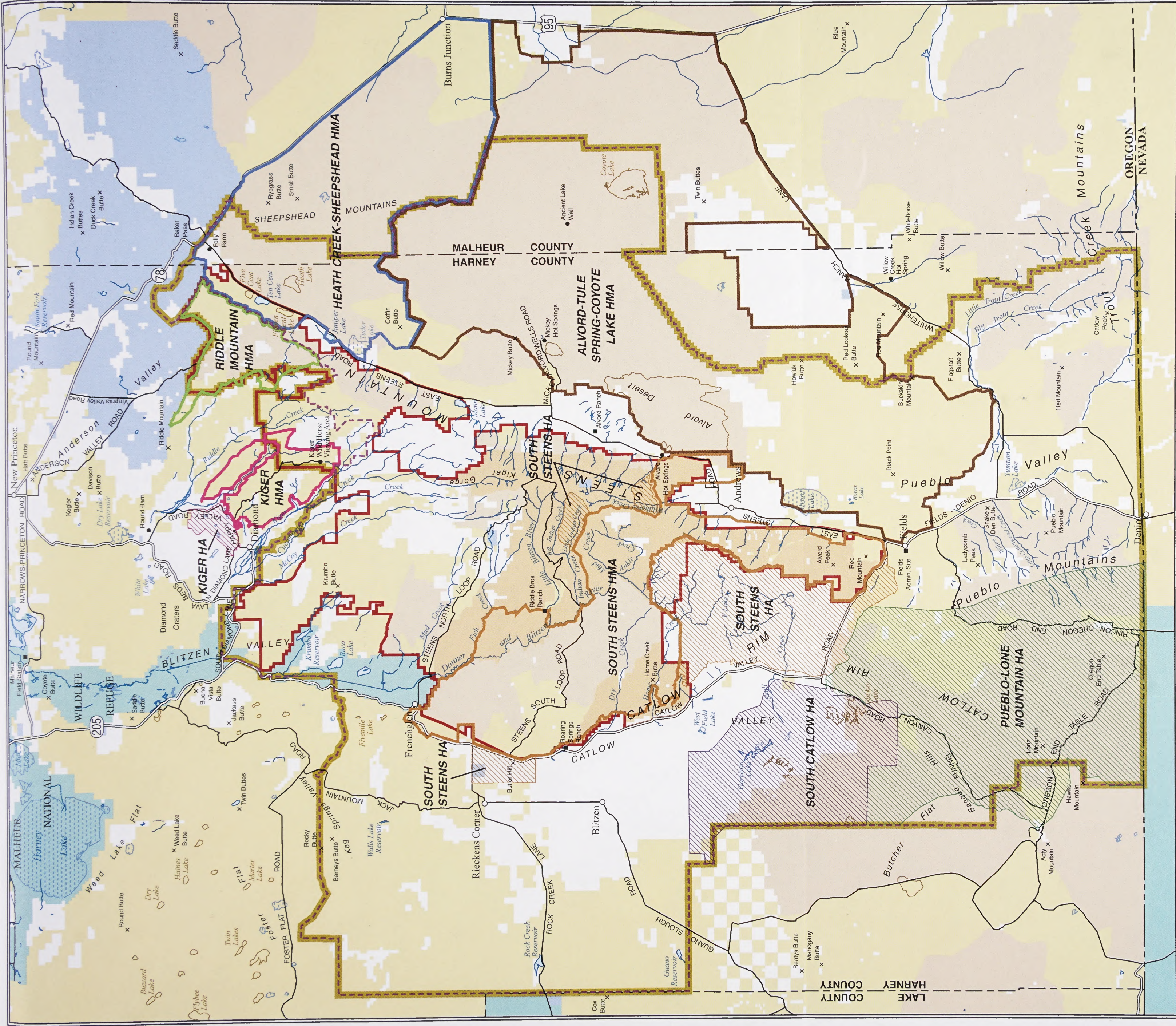
BURNS DISTRICT

Andrews Management Unit / Steens Mountain Cooperative Management and Protection Area Draft Resource Management Plan 2003



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 2.3: Proposed Herd Areas and Herd Management Areas within the RMP Area - Alternative E



LEGEND

- | | |
|--------------------------------|---|
| Herd Management Area | Paved Road |
| Alford-Tule Spring-Coyote Lake | Non-Paved Improved Road |
| Heath Creek-Sheepshead | Cooperative Management and Protection Area Boundary |
| Kiger | Planning Area Boundary |
| Riddle Mountain | Andrews Resource Area Boundary |
| South Steens | BLM Administered Land |
| Herd Area | Wilderness |
| Kiger | Wilderness Study Area |
| Pueblo-Lone Mountain | U.S. Fish and Wildlife Service Land |
| South Catlow | State Land |
| South Steens | Private Land |

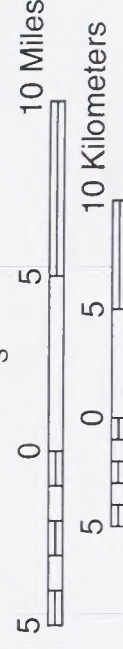
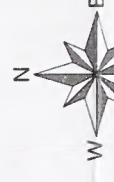
U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management



BURNS DISTRICT

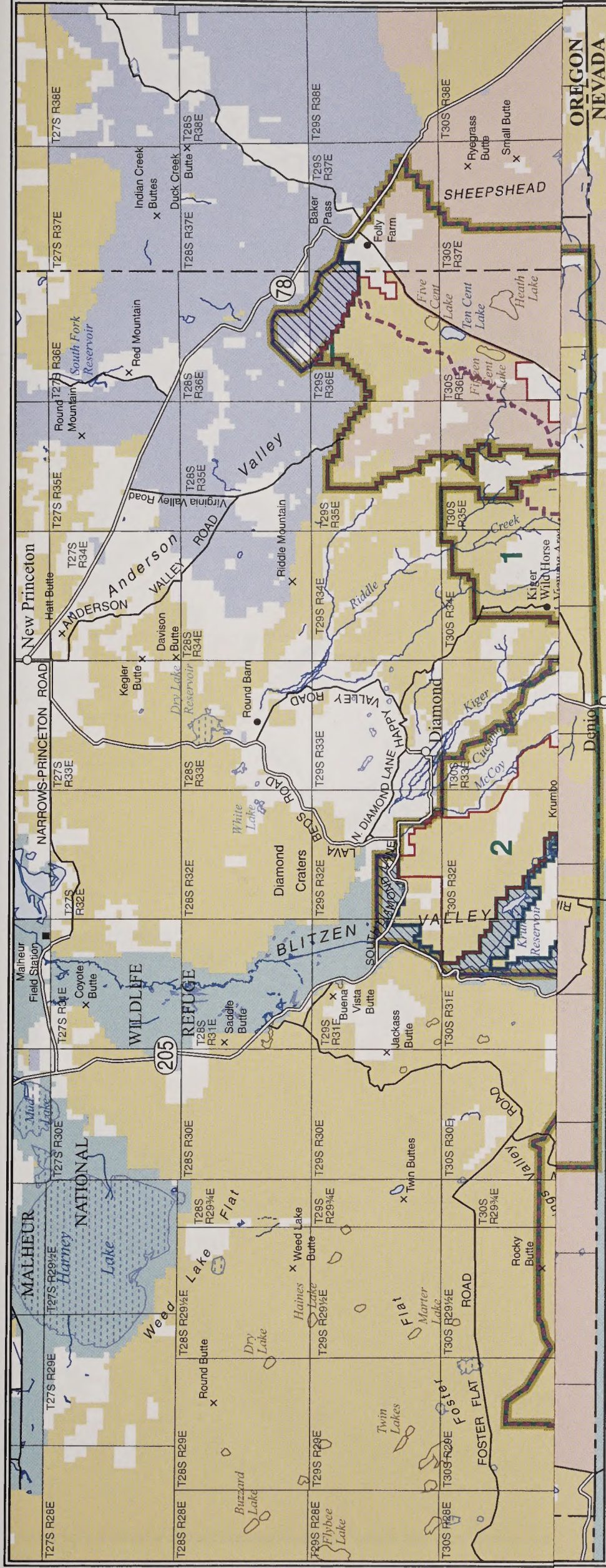
Andrews Management Unit / Steens Mountain Cooperative Management and Protection Area Draft Resource Management Plan

2003



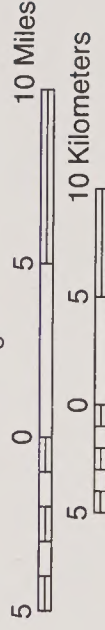
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 2.3: Proposed Herd Areas and Herd Management Areas within the RMP Area - Alternative E



LEGEND

- | | | | |
|----------|-------------------------------------|--|---|
| | Land Tenure Zone | | Paved Road |
| 1 | Retention / Acquisition | | Non-Paved Improved Road |
| 2 | Disposal by Exchange | | Cooperative Management and Protection Area Boundary |
| 3 | Disposal | | Planning Area Boundary |
| | Not Zoned in Existing Land Use Plan | | Andrews Resource Area Boundary |
| | | | BLM Administered Land |
| | | | Wilderness |
| | | | Wilderness Study Area |
| | | | U.S. Fish and Wildlife Service Land |
| | | | State Land |
| | | | Private Land |



U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management



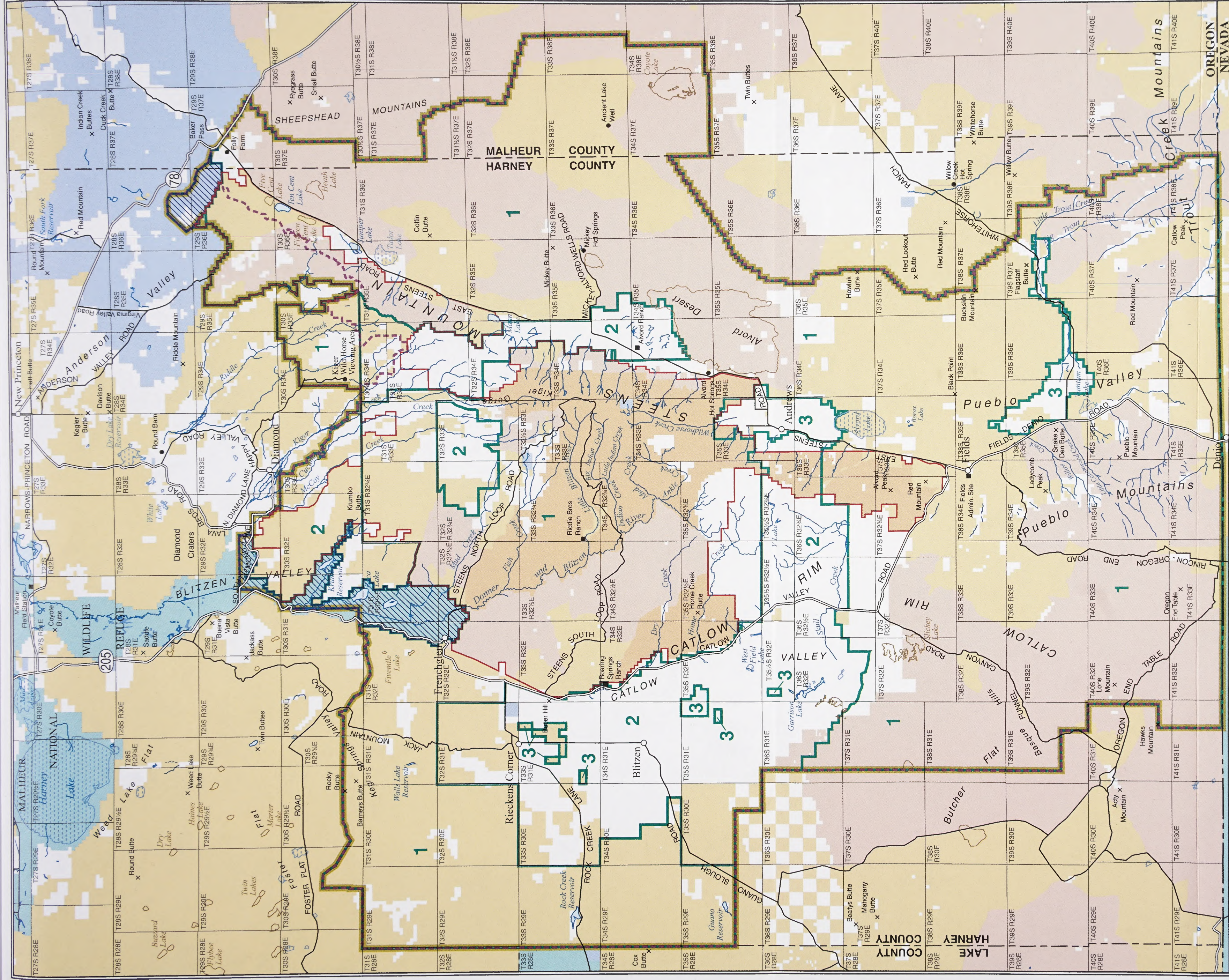
BURNS DISTRICT

Andrews Management Unit / Steens Mountain Cooperative Management and Protection Area Draft Resource Management Plan 2003



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 2.4: Land Tenure Zone Boundaries within the RMP Area - Alternative A



LEGEND

- Land Tenure Zone
 - 1
 - 2
 - 3
- Retention / Acquisition
- Disposal by Exchange
- Disposal
- Not Zoned in Existing Land Use Plan
- Paved Road
- Non-Paved Improved Road
- Cooperative Management and Protection Area Boundary
- Planning Area Boundary
- Andrews Resource Area Boundary
- BLM Administered Land
- Wilderness
- Wilderness Study Area
- U.S. Fish and Wildlife Service Land
- State Land
- Private Land

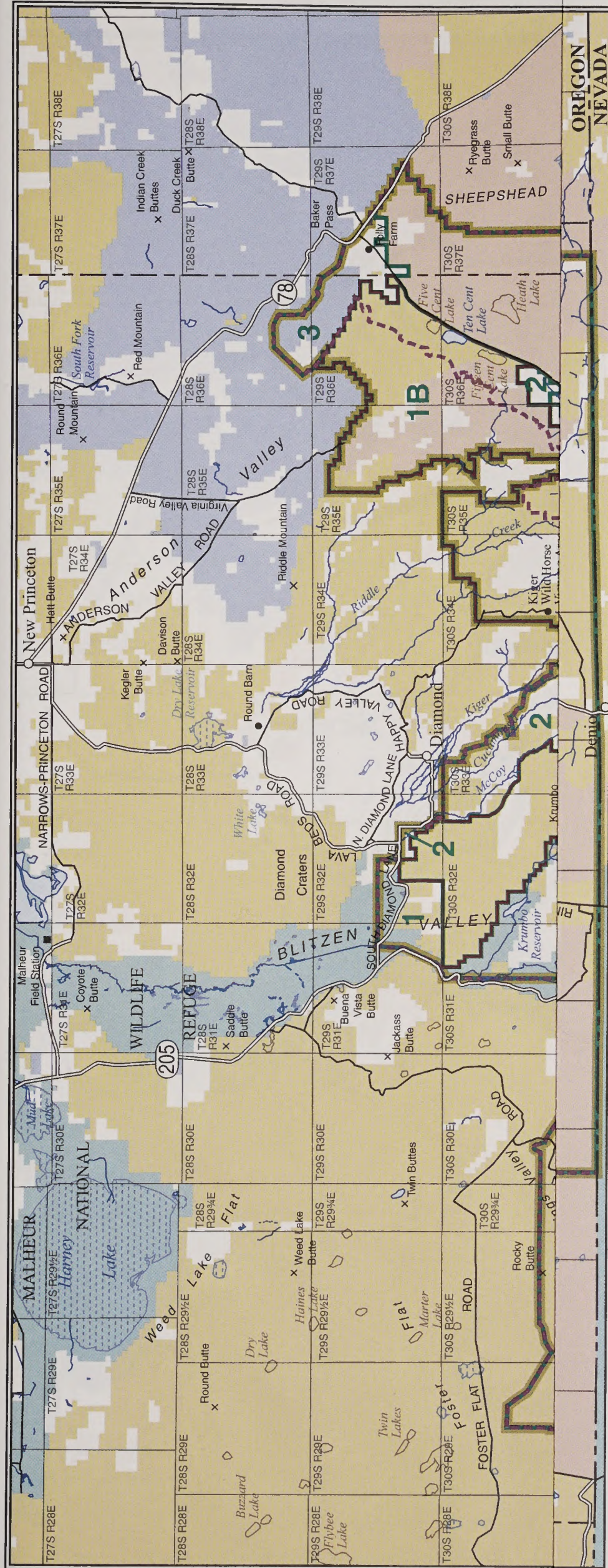


Andrews Management Unit / Steens Mountain Cooperative Management and Protection Area Draft Resource Management Plan 2003



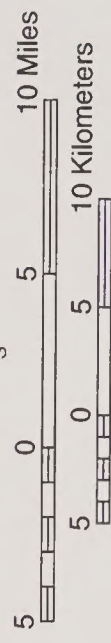
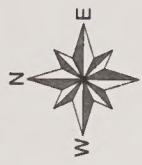
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 2.4: Land Tenure Zone Boundaries within the RMP Area - Alternative A



LEGEND

- | | | | |
|-----------|---|--|---|
| | Land Tenure Zone | | Paved Road |
| 1 | Retention / Acquisition | | Non-Paved Improved Road |
| 1A | Retention / Acquisition Within Steens Mountain Wilderness | | Cooperative Management and Protection Area Boundary |
| 1B | Retention / Acquisition Within CMPA | | Planning Area Boundary |
| 2 | Disposal by Exchange | | Andrews Resource Area Boundary |
| 3 | Disposal | | BLM Administered Land |
| | | | Wilderness |
| | | | Wilderness Study Area |
| | | | U.S. Fish and Wildlife Service Land |
| | | | State Land |
| | | | Private Land |



U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

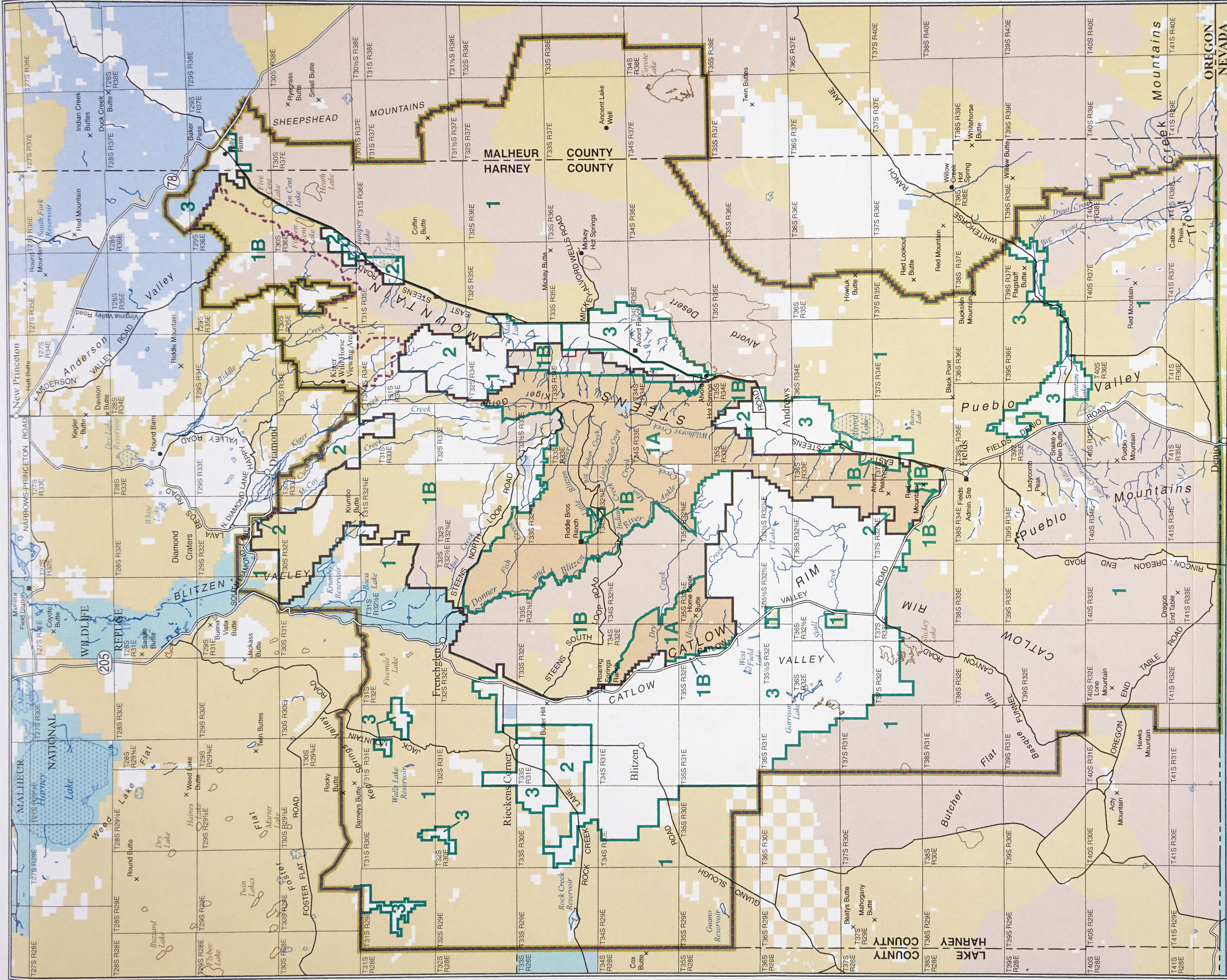
BURNS DISTRICT

Andrews Management Unit / Steens Mountain Cooperative Management and Protection Area Draft Resource Management Plan 2003

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.



Map 2.5: Land Tenure Zone Boundaries within the RMP Area - Alternative C



LEGEND

- | | | | |
|--|---|--|---|
| | Land Tenure Zone | | Paved Road |
| | Retention / Acquisition | | Non-Paved Improved Road |
| | Retention / Acquisition Within Steens Mountain Wilderness | | Cooperative Management and Protection Area Boundary |
| | Retention / Acquisition Within CMPA | | Planning Area Boundary |
| | Disposal by Exchange | | Andrews Resource Area Boundary |
| | Disposal | | BLM Administered Land |
| | | | Wilderness |
| | | | Wilderness Study Area |
| | | | U.S. Fish and Wildlife Service Land |
| | | | State Land |
| | | | Private Land |

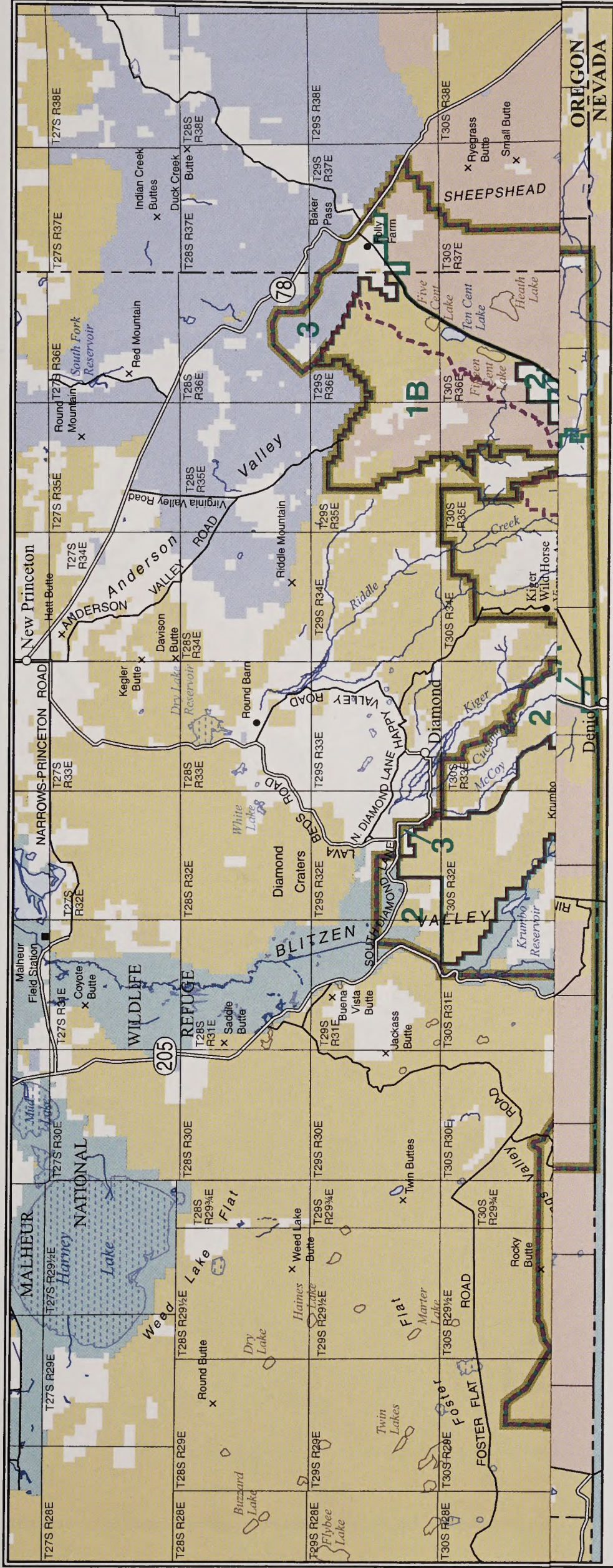


U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

ANDREWS MANAGEMENT UNIT /
STEENS MOUNTAIN COOPERATIVE
MANAGEMENT AND PROTECTION AREA
DRAFT RESOURCE MANAGEMENT PLAN
2003

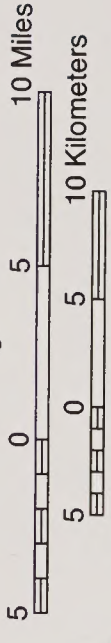
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 2.5: Land Tenure Zone Boundaries within the RMP Area - Alternative C



LEGEND

- | | | | |
|-----------|---|--|---|
| | Land Tenure Zone | | Paved Road |
| 1 | Retention / Acquisition | | Non-Paved Improved Road |
| 1A | Retention / Acquisition Within Steens Mountain Wilderness | | Cooperative Management and Protection Area Boundary |
| 1B | Retention / Acquisition Within CMPA | | Planning Area Boundary |
| 2 | Disposal by Exchange | | Andrews Resource Area Boundary |
| 2A | Community Expansion | | BLM Administered Land |
| 3 | Disposal | | Wilderness |
| | | | Wilderness Study Area |
| | | | U.S. Fish and Wildlife Service Land |
| | | | State Land |
| | | | Private Land |



U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

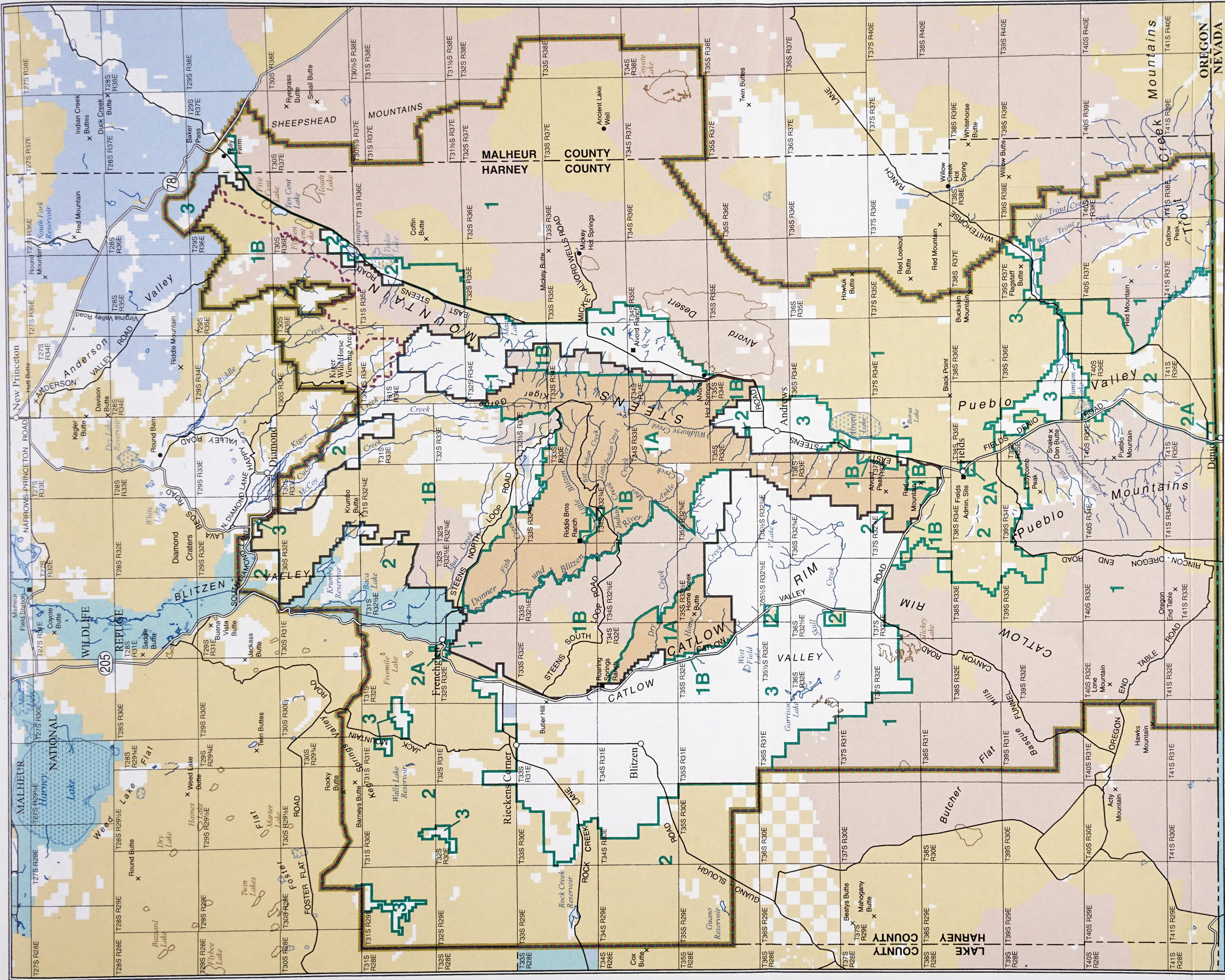
BURNS DISTRICT

Andrews Management Unit / Steens Mountain Cooperative Management and Protection Area Draft Resource Management Plan 2003

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

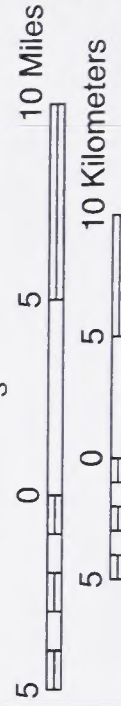
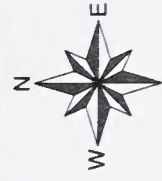


Map 2.6: Land Tenure Zone Boundaries within the RMP Area - Alternative D



LEGEND

- | | | | |
|-----------|---|--|---|
| 1 | Land Tenure Zone | | Paved Road |
| 1A | Retention / Acquisition | | Non-Paved Improved Road |
| 1B | Retention / Acquisition Within Steens Mountain Wilderness | | Cooperative Management and Protection Area Boundary |
| 2 | Retention / Acquisition Within CMPA | | Planning Area Boundary |
| 2A | Disposal by Exchange | | Andrews Resource Area Boundary |
| 3 | Community Expansion | | BLM Administered Land |
| | Disposal | | Wilderness |
| | | | Wilderness Study Area |
| | | | U.S. Fish and Wildlife Service Land |
| | | | State Land |
| | | | Private Land |



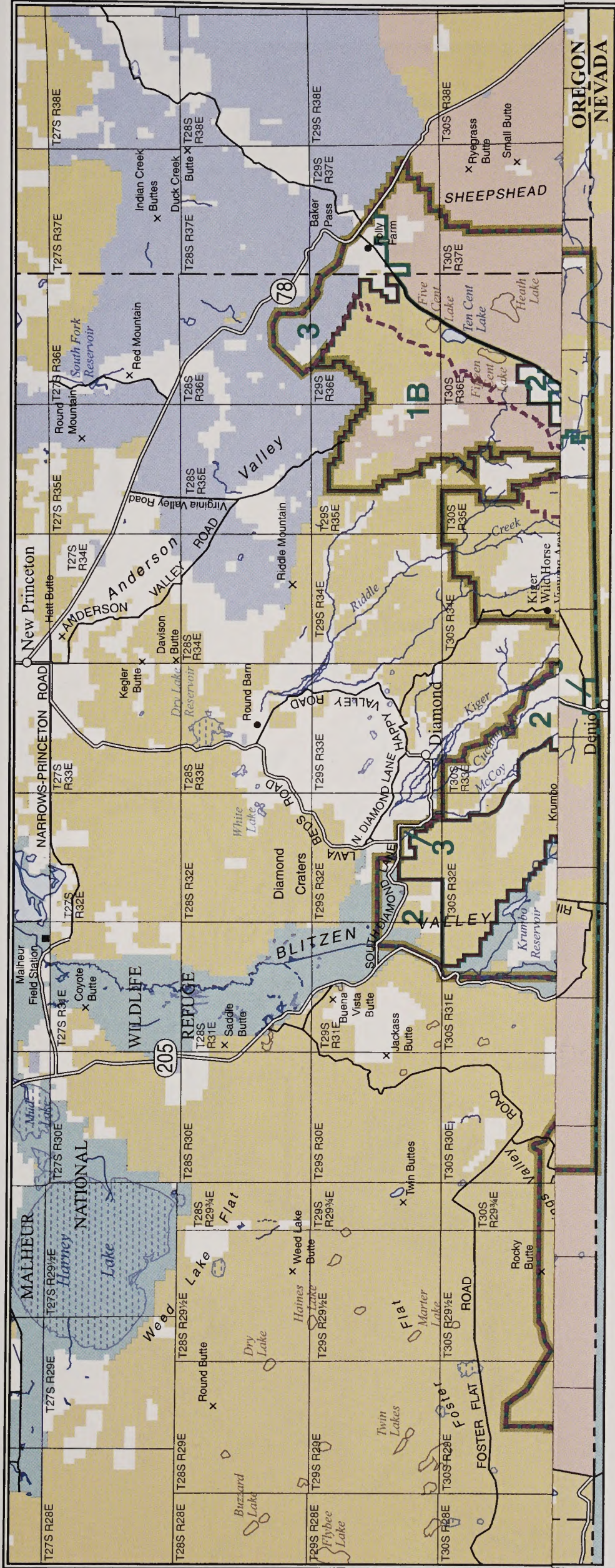
BURNS DISTRICT

**Andrews Management Unit /
Steens Mountain Cooperative
Management and Protection Area
Draft Resource Management Plan
2003**



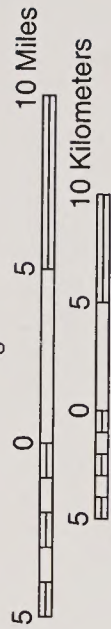
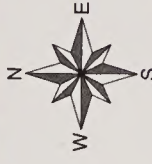
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 2.6: Land Tenure Zone Boundaries within the RMP Area - Alternative D



LEGEND

- | | | | |
|-----------|---|--|---|
| | Land Tenure Zone | | Paved Road |
| 1 | Retention / Acquisition | | Non-Paved Improved Road |
| 1A | Retention / Acquisition Within Steens Mountain Wilderness | | Cooperative Management and Protection Area Boundary |
| 1B | Retention / Acquisition Within CMPA | | Planning Area Boundary |
| 2 | Disposal by Exchange | | Andrews Resource Area Boundary |
| 3 | Disposal | | BLM Administered Land |
| | | | Wilderness |
| | | | Wilderness Study Area |
| | | | U.S. Fish and Wildlife Service Land |
| | | | State Land |
| | | | Private Land |



U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

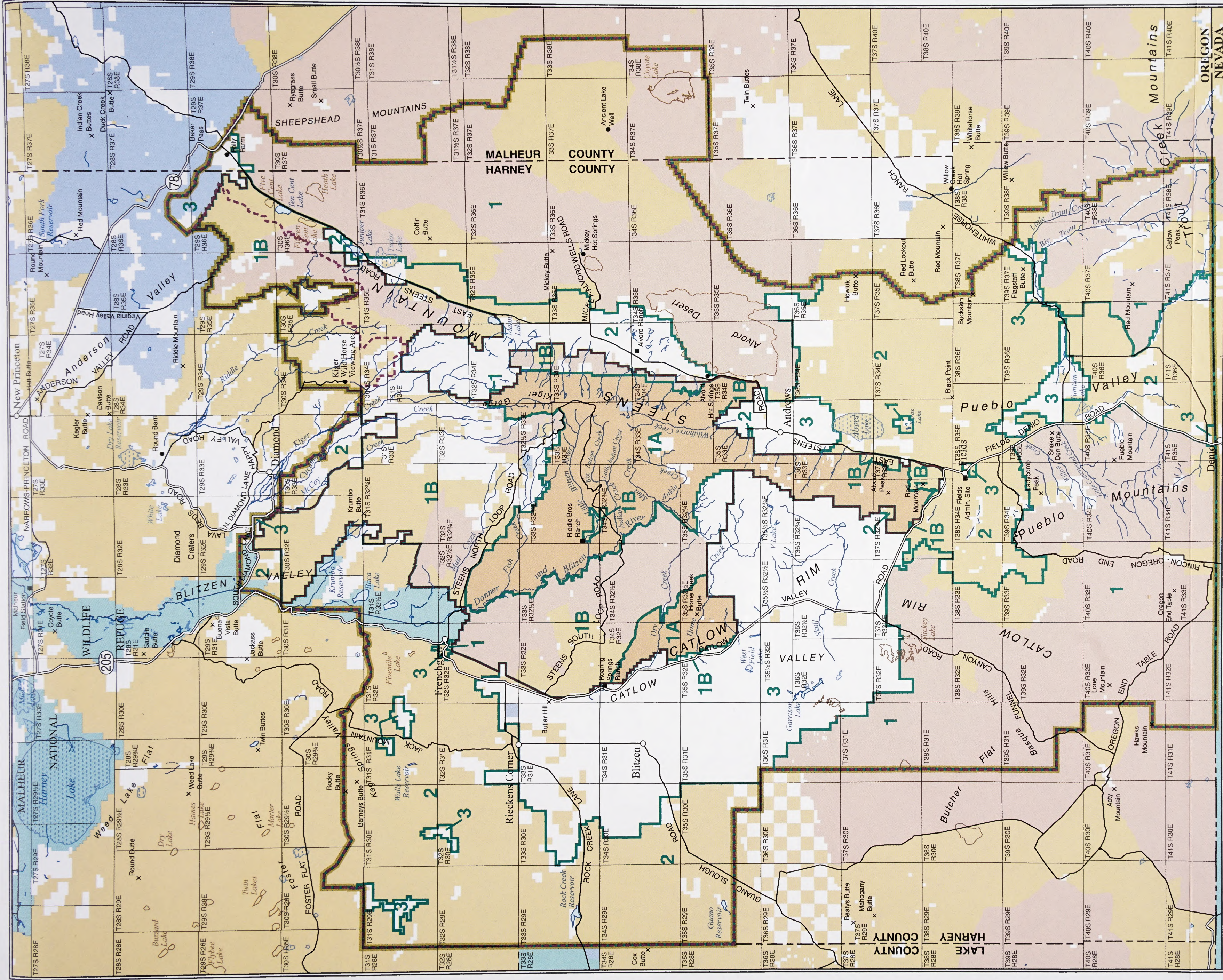


BURNS DISTRICT

Andrews Management Unit / Steens Mountain Cooperative Management and Protection Area Draft Resource Management Plan 2003

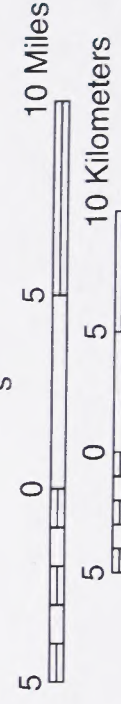
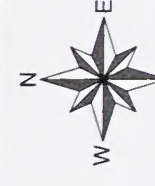
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 2.7: Land Tenure Zone Boundaries within the RMP Area - Alternative E



LEGEND

- | | | | |
|--|------------------|--|---|
| | Land Tenure Zone | | Paved Road |
| | 1 | | Non-Paved Improved Road |
| | 1A | | Cooperative Management and Protection Area Boundary |
| | 1B | | Planning Area Boundary |
| | 2 | | Andrews Resource Area Boundary |
| | 3 | | BLM Administered Land |
| | | | Wilderness |
| | | | Wilderness Study Area |
| | | | U.S. Fish and Wildlife Service Land |
| | | | State Land |
| | | | Private Land |



BURNS DISTRICT

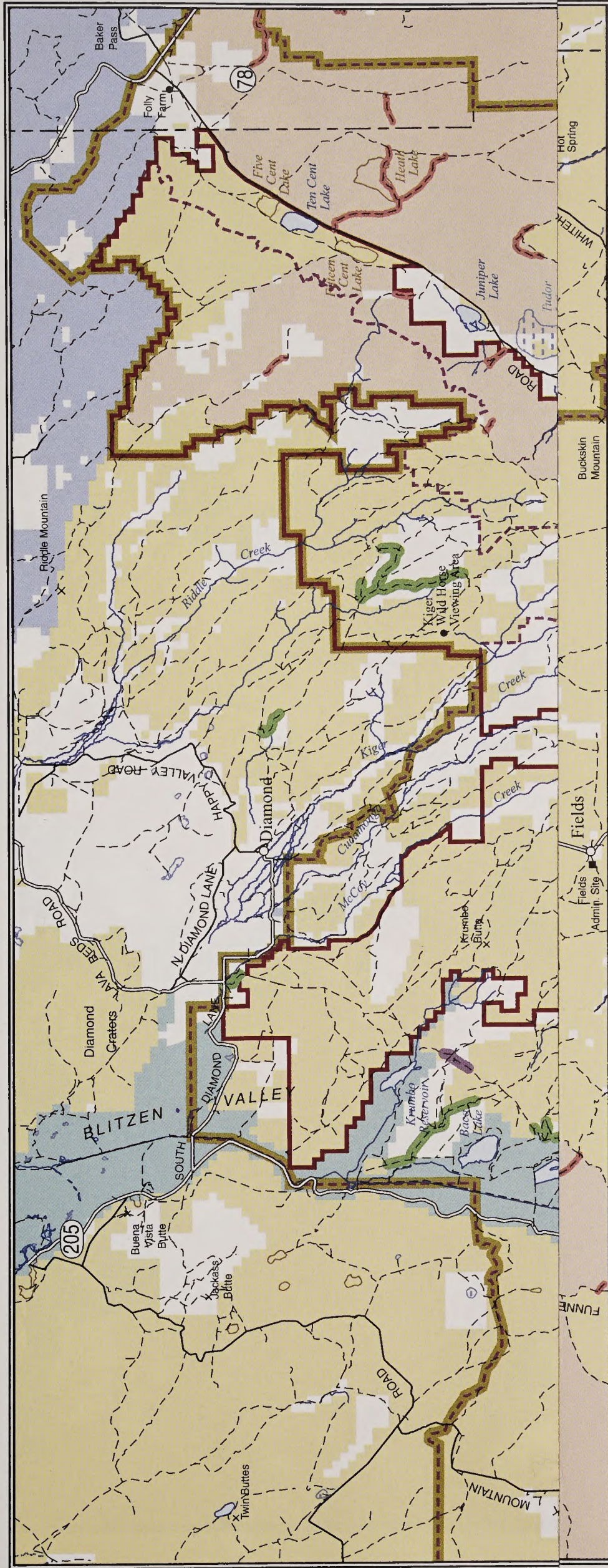
Andrews Management Unit /
Steens Mountain Cooperative
Management and Protection Area
Draft Resource Management Plan

2003



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 2.7: Land Tenure Zone Boundaries within the RMP Area - Alternative E



LEGEND

	Gate		Cooperative Management and Protection Area Boundary
	Paved Road		Planning Area Boundary
	Non-Paved Improved Road		Andrews Resource Area Boundary
	Primitive or Unknown Road Condition		BLM Administered Land
	Closed Road		Wilderness
	Way		Wilderness Study Area
	Wilderness Cherry Stem Road		U.S. Fish and Wildlife Service Land
	Permit/Inholder Route (Pending EA Decision) Closed to Public Motorized Use		State Land
	Public Hiking Trail Easement		Private Land
	Public Motorized Easement		

2.5 0 2.5 5 Miles

2.5 0 2.5 5 Kilometers

OREGON

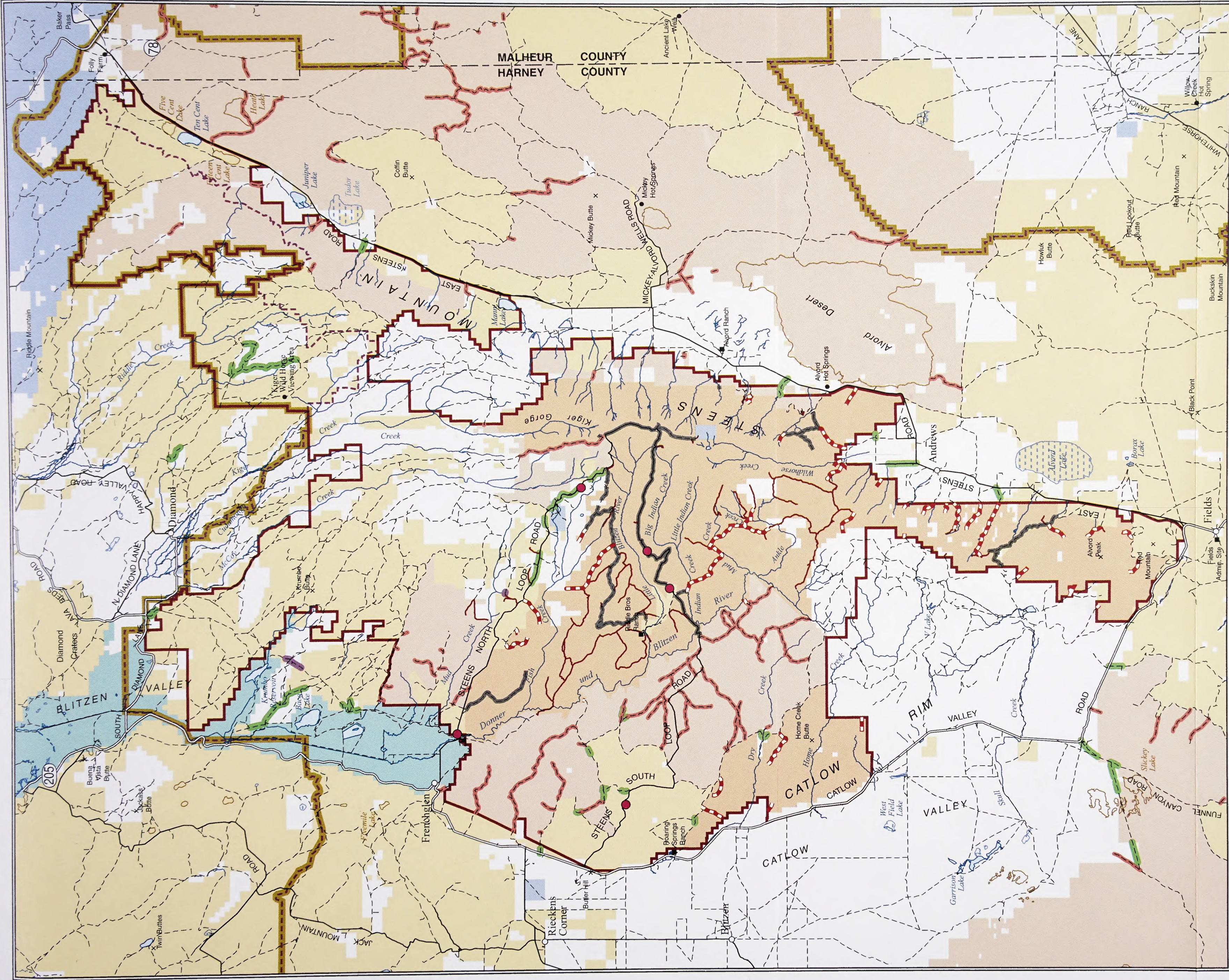
Planning Area

BURNS DISTRICT

Andrews Management Unit / Steens Mountain Cooperative Management and Protection Area Draft Resource Management Plan 2003

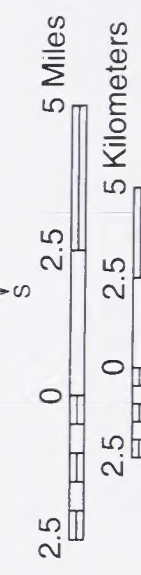
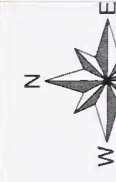
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 2.8: Transportation Plan within the CMPA



LEGEND

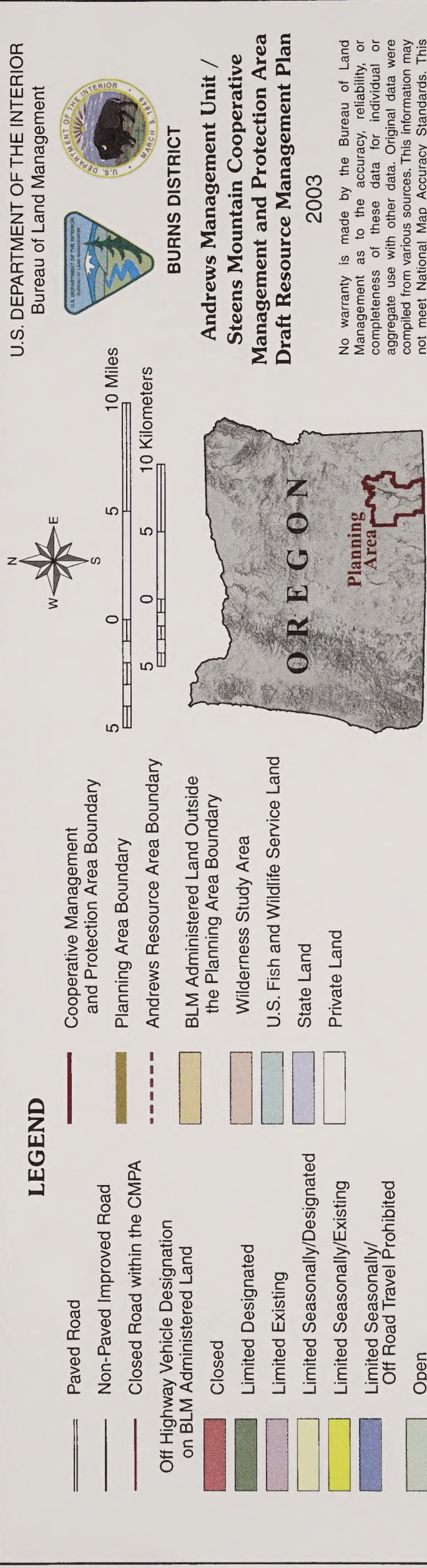
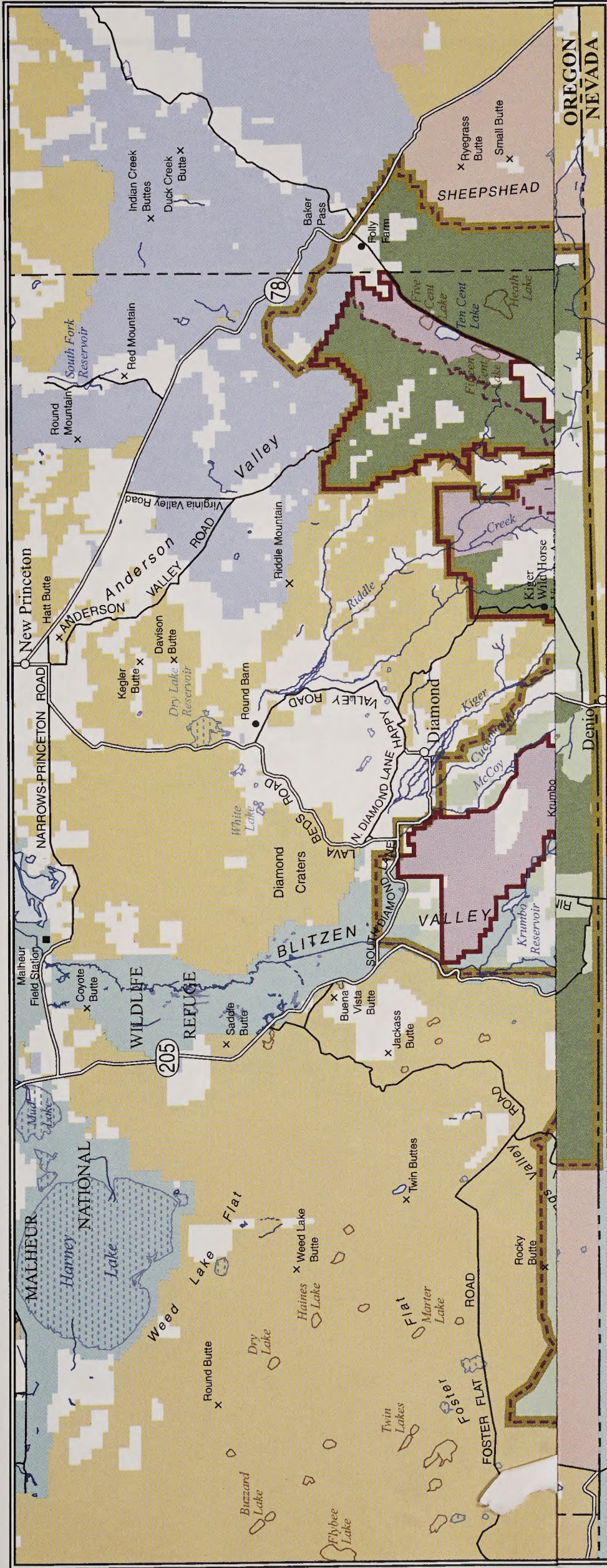
- | | |
|--|---|
| Gate | Cooperative Management and Protection Area Boundary |
| Paved Road | Planning Area Boundary |
| Non-Paved Improved Road | Andrews Resource Area Boundary |
| Primitive or Unknown Road Condition | BLM Administered Land |
| Closed Road | Wilderness |
| Way | Wilderness Study Area |
| Wilderness Cherry Stem Road | U.S. Fish and Wildlife Service Land |
| Permit/Inholder Route (Pending EA Decision) Closed to Public Motorized Use | State Land |
| Public Hiking Trail Easement | Private Land |
| Public Motorized Easement | |

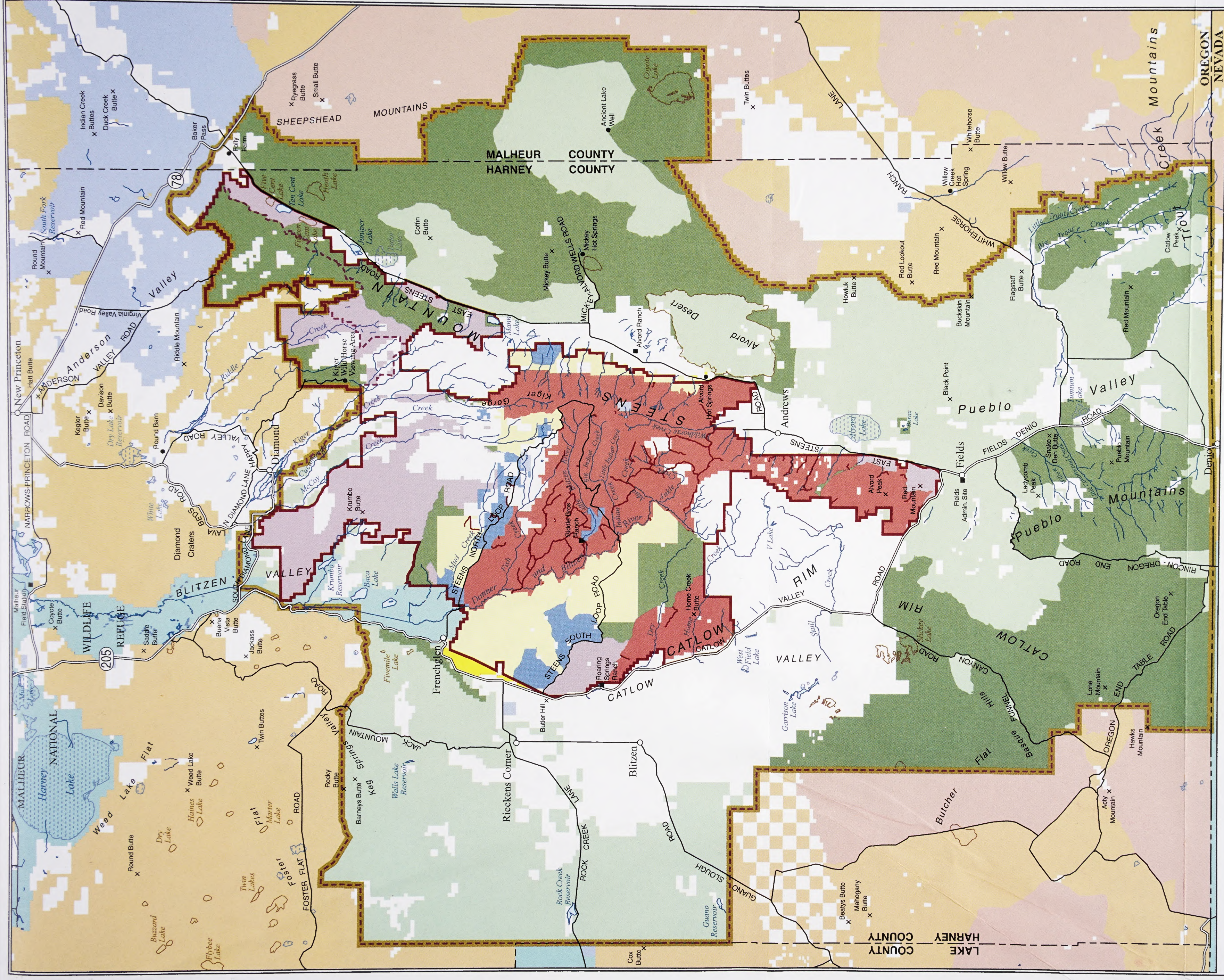


Andrews Management Unit / Steens Mountain Cooperative Management and Protection Area Draft Resource Management Plan 2003

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

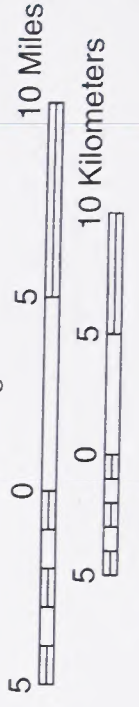
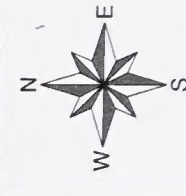
Map 2.8: Transportation Plan within the CMPA





LEGEND

- | | | | |
|--|--|--|--|
| | Paved Road | | Cooperative Management and Protection Area Boundary |
| | Non-Paved Improved Road | | Planning Area Boundary |
| | Closed Road within the CMPA | | Andrus Resource Area Boundary |
| | Off Highway Vehicle Designation on BLM Administered Land | | BLM Administered Land Outside the Planning Area Boundary |
| | Closed | | Wilderness Study Area |
| | Limited Designated | | U.S. Fish and Wildlife Service Land |
| | Limited Existing | | State Land |
| | Limited Seasonally/Designated | | Private Land |
| | Limited Seasonally/Existing | | |
| | Limited Seasonally/Off Road Travel Prohibited | | |
| | Open | | |



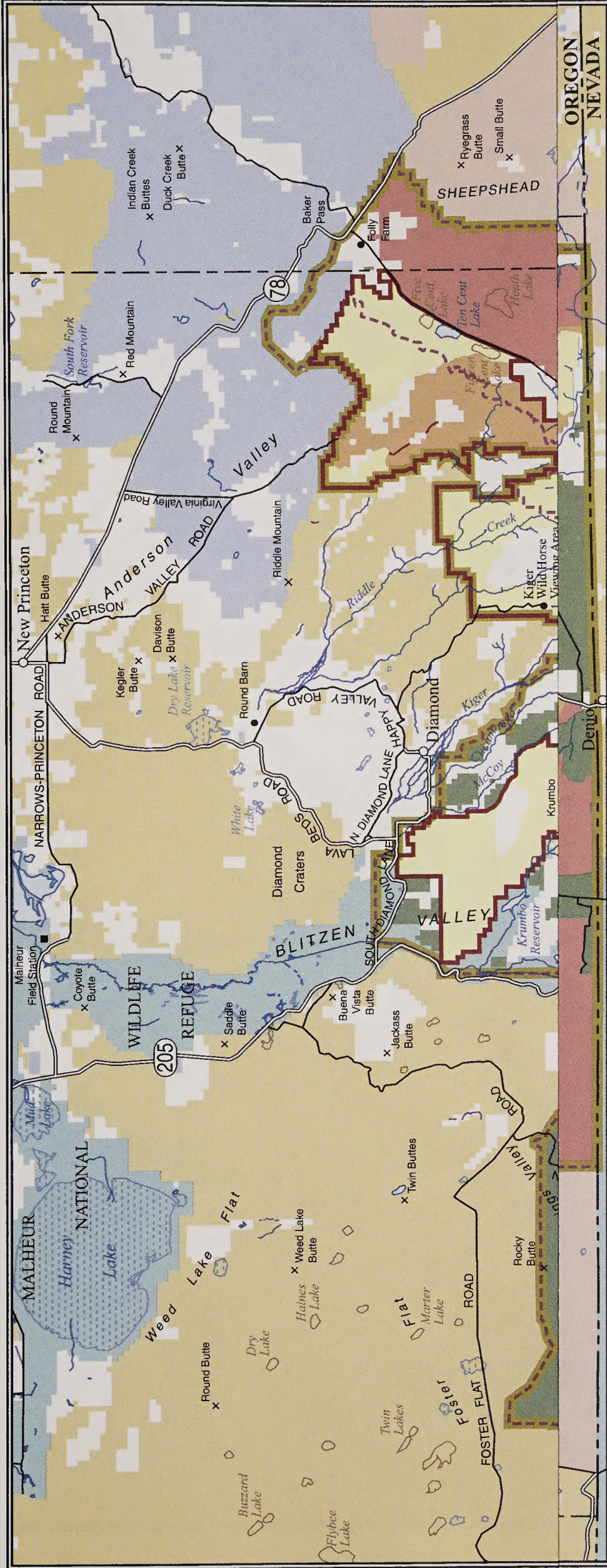
U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management



**Andrus Management Unit /
Steens Mountain Cooperative
Management and Protection Area
Draft Resource Management Plan
2003**

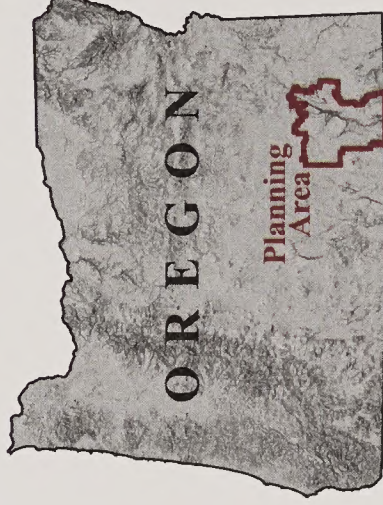
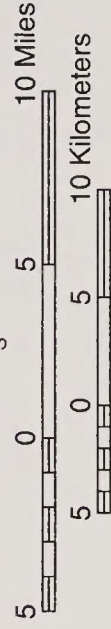
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 2.9: Off Highway Vehicle Designations within the RMP Area - Alternative A



LEGEND

- | | | | |
|--|--|--|--|
| | Paved Road | | Cooperative Management and Protection Area Boundary |
| | Non-Paved Improved Road | | Planning Area Boundary |
| | Closed Road within the CMPA | | Andrews Resource Area Boundary |
| | Off Highway Vehicle Designation on BLM Administered Land | | BLM Administered Land Outside the Planning Area Boundary |
| | Closed | | Wilderness Study Area |
| | Limited Designated | | U.S. Fish and Wildlife Service Land |
| | Limited Seasonally/Closed | | State Land |
| | Limited Seasonally/Designated | | Private Land |



U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

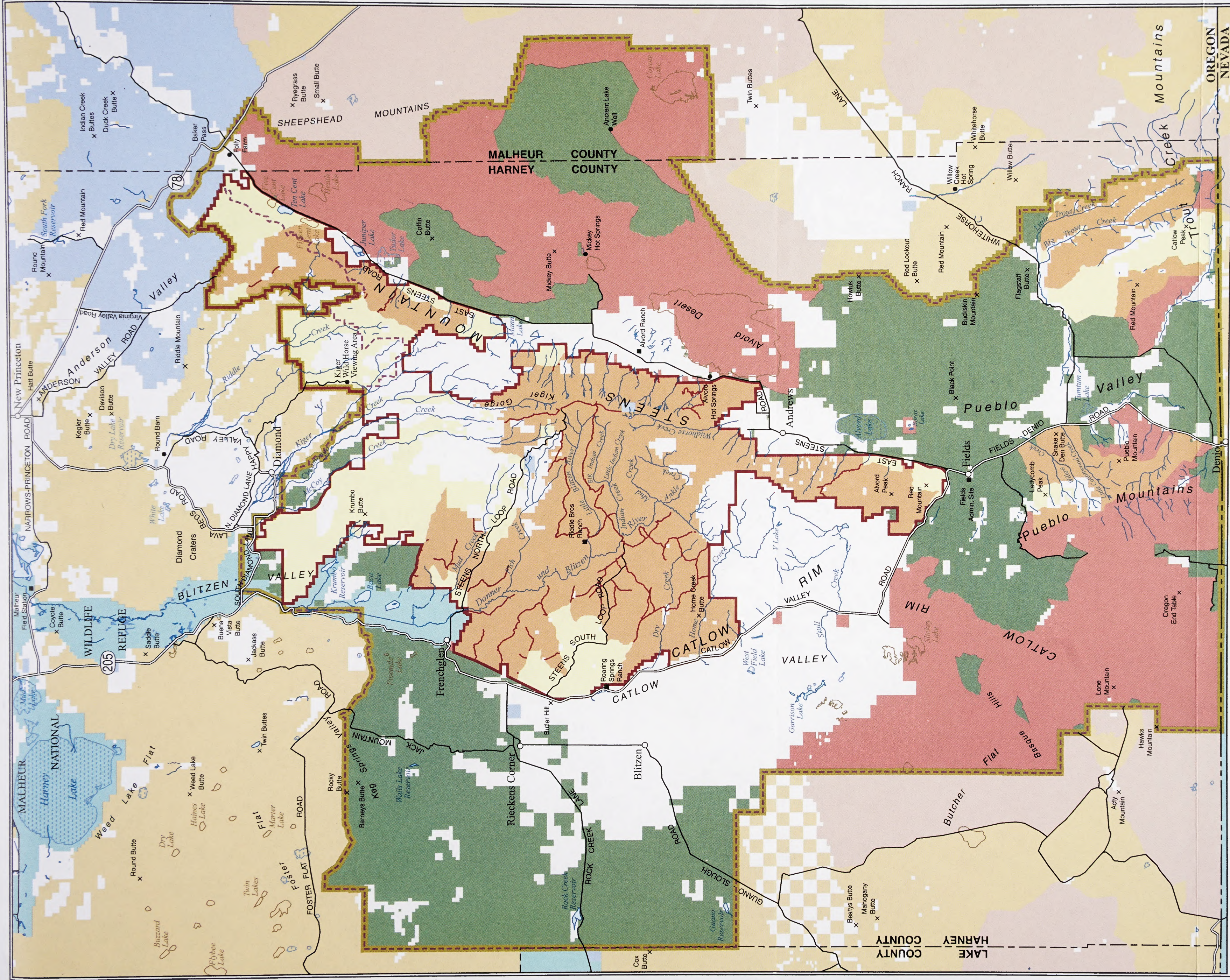


BURNS DISTRICT

Andrews Management Unit / Steens Mountain Cooperative Management and Protection Area Draft Resource Management Plan 2003

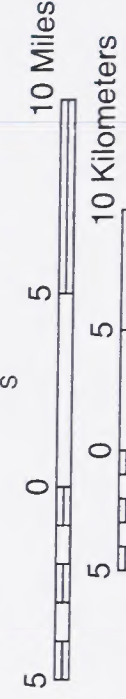
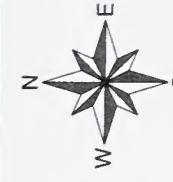
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 2.10: Off Highway Vehicle Designations within the RMP Area - Alternative B



LEGEND

- | | | | |
|--|--|--|--|
| | Paved Road | | Cooperative Management and Protection Area Boundary |
| | Non-Paved Improved Road | | Planning Area Boundary |
| | Closed Road within the CMPA | | Andrews Resource Area Boundary |
| | Off Highway Vehicle Designation on BLM Administered Land | | BLM Administered Land Outside the Planning Area Boundary |
| | Closed | | Wilderness Study Area |
| | Limited Designated | | U.S. Fish and Wildlife Service Land |
| | Limited Seasonally/Closed | | State Land |
| | Limited Seasonally/Designated | | Private Land |



U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

BURNS DISTRICT

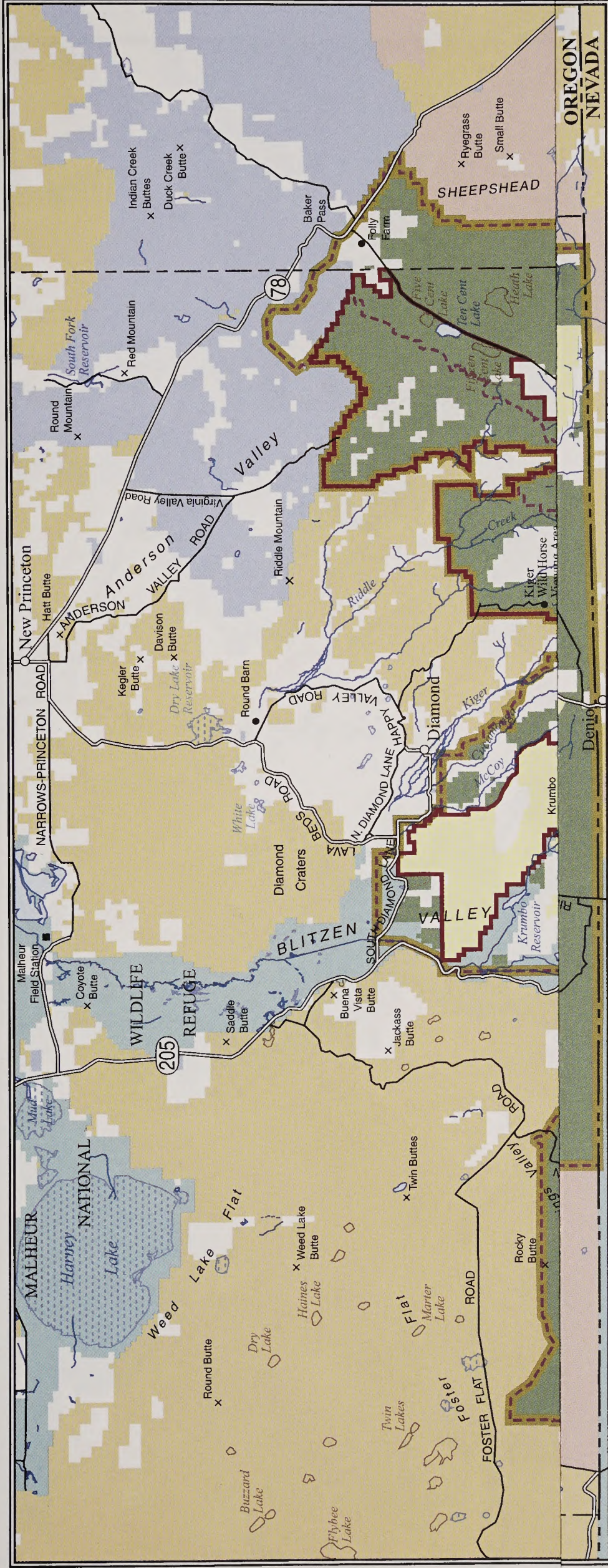
Andrews Management Unit / Steens Mountain Cooperative Management and Protection Area Draft Resource Management Plan

2003



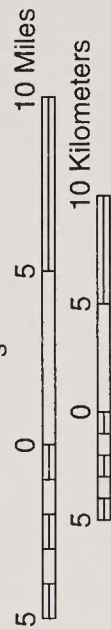
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 2.10: Off Highway Vehicle Designations within the RMP Area - Alternative B



LEGEND

- | | | | |
|--|--|--|--|
| | Paved Road | | Cooperative Management and Protection Area Boundary |
| | Non-Paved Improved Road | | Planning Area Boundary |
| | Closed Road within the CMPA | | Andrews Resource Area Boundary |
| | Off Highway Vehicle Designation on BLM Administered Land | | BLM Administered Land Outside the Planning Area Boundary |
| | Closed | | Wilderness Study Area |
| | Limited Designated | | U.S. Fish and Wildlife Service Land |
| | Limited Seasonally/Closed | | State Land |
| | Limited Seasonally/Designated | | Private Land |



U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

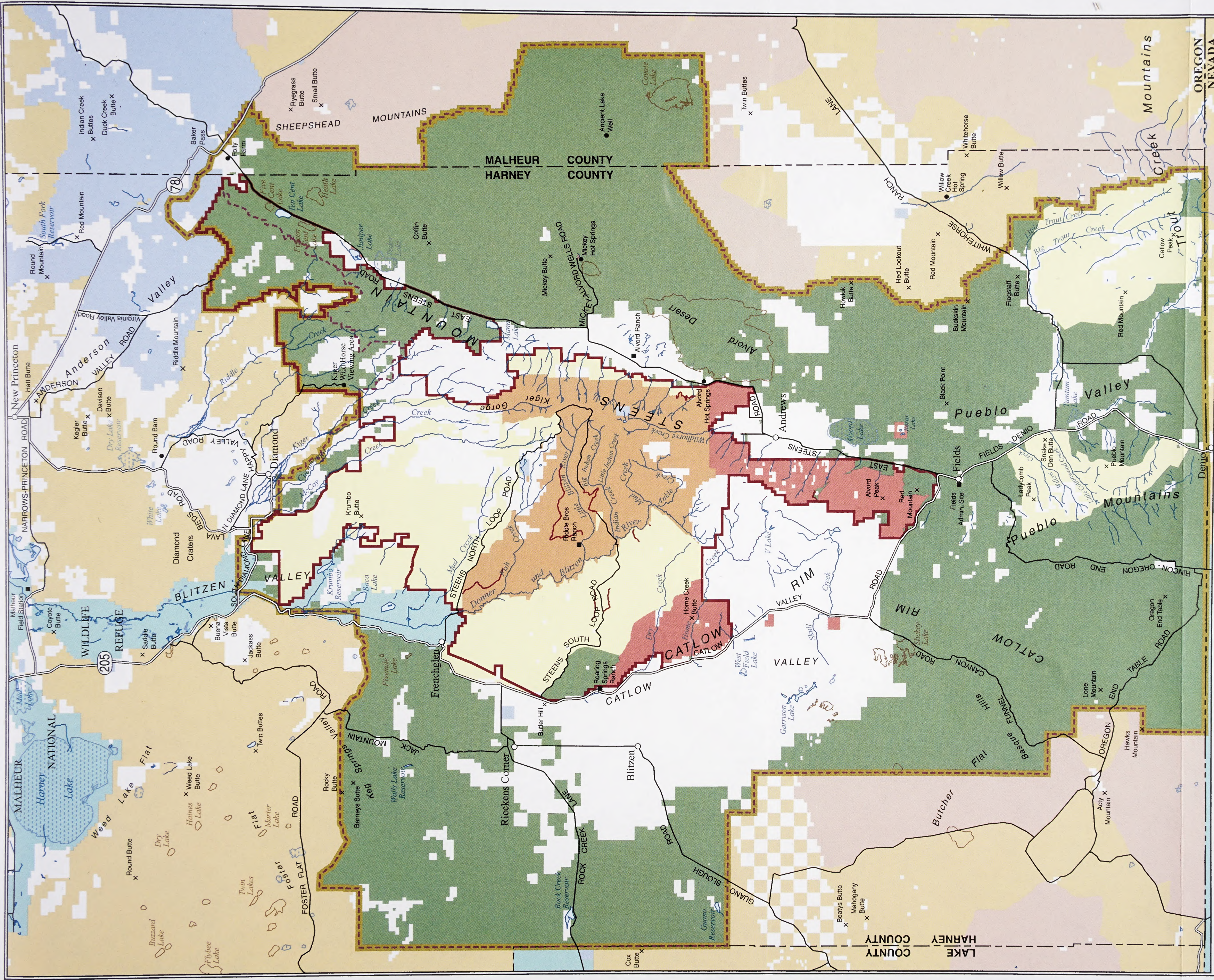


BURNS DISTRICT

Andrews Management Unit / Steens Mountain Cooperative Management and Protection Area Draft Resource Management Plan 2003

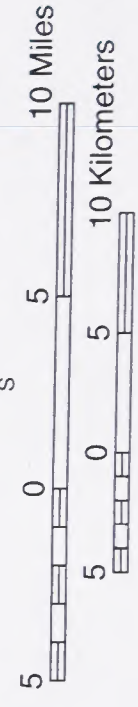
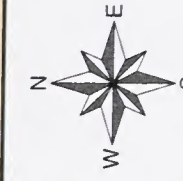
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 2.11: Off Highway Vehicle Designations within the RMP Area - Alternative C



LEGEND

- Paved Road
- Non-Paved Improved Road
- Closed Road within the CMPA
- Off Highway Vehicle Designation on BLM Administered Land
- Closed
- Limited Designated
- Limited Seasonally/Closed
- Limited Seasonally/Designated
- Cooperative Management and Protection Area Boundary
- Planning Area Boundary
- Andrews Resource Area Boundary
- BLM Administered Land Outside the Planning Area Boundary
- Wilderness Study Area
- U.S. Fish and Wildlife Service Land
- State Land
- Private Land



U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

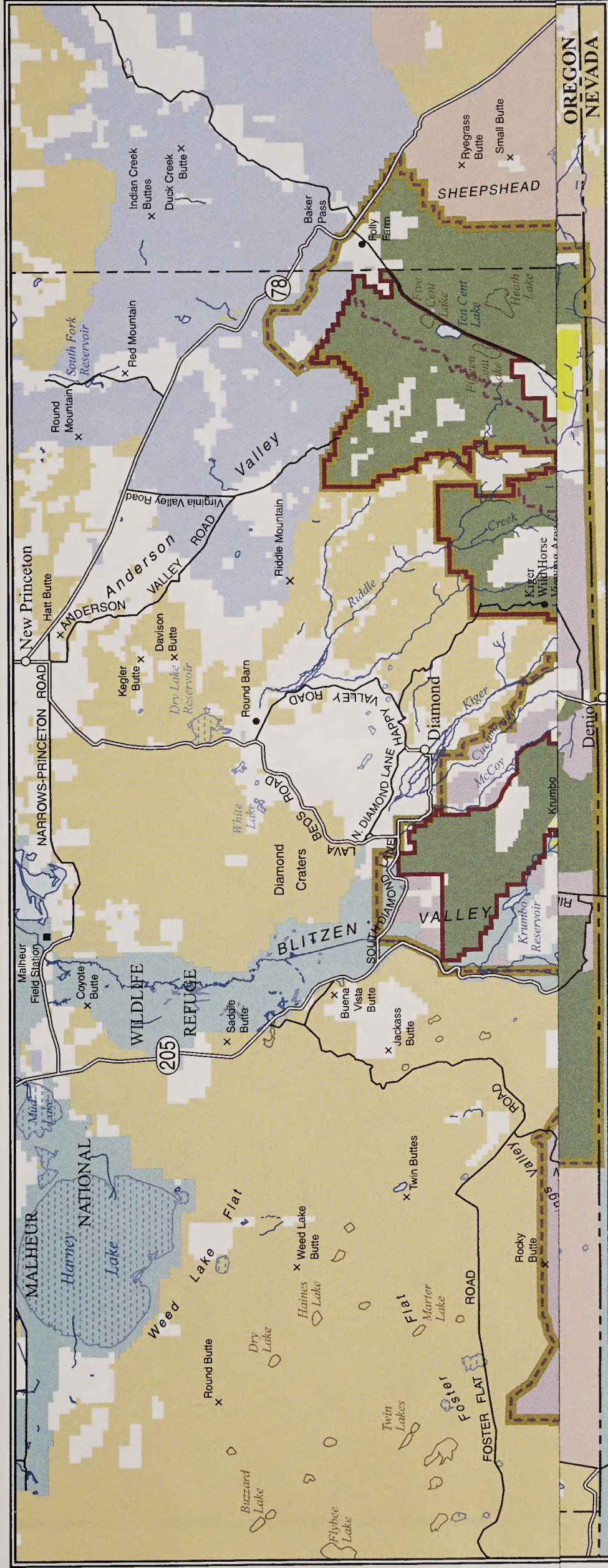


**Andrews Management Unit /
Steens Mountain Cooperative
Management and Protection Area
Draft Resource Management Plan**

2003

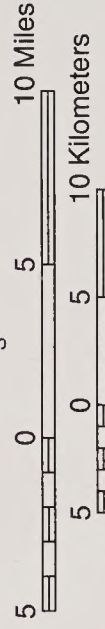
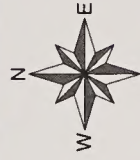
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 2.11: Off Highway Vehicle Designations within the RMP Area - Alternative C



LEGEND

- | | | | |
|--|--|--|--|
| | Paved Road | | Cooperative Management and Protection Area Boundary |
| | Non-Paved Improved Road | | Planning Area Boundary |
| | Closed Road within the CMPA | | Andrews Resource Area Boundary |
| | Off Highway Vehicle Designation on BLM Administered Land | | BLM Administered Land Outside the Planning Area Boundary |
| | Closed | | Wilderness Study Area |
| | Limited Designated | | U.S. Fish and Wildlife Service Land |
| | Limited Existing | | State Land |
| | Limited Seasonally/Closed | | Private Land |
| | Limited Seasonally/Designated | | |
| | Limited Seasonally/Existing | | |
| | Open | | |



U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

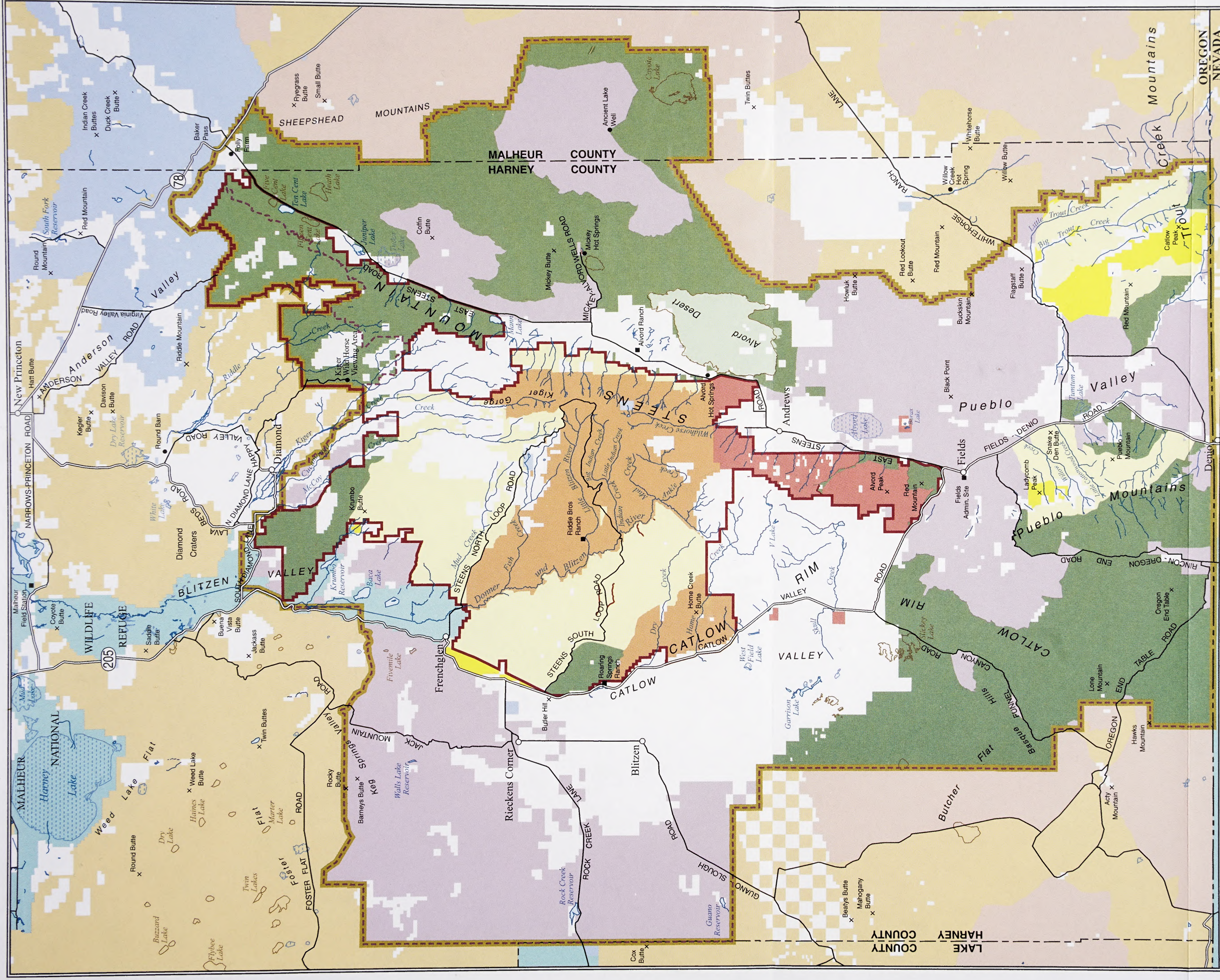


BURNS DISTRICT

Andrews Management Unit / Steens Mountain Cooperative Management and Protection Area Draft Resource Management Plan 2003

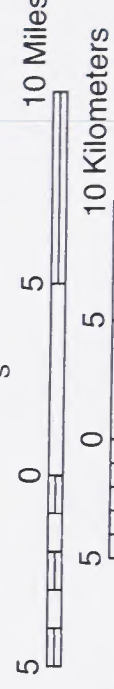
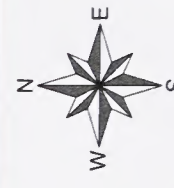
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 2.12: Off Highway Vehicle Designations within the RMP Area - Alternative D



LEGEND

- Paved Road
- Non-Paved Improved Road
- Closed Road within the CMPA
- Off Highway Vehicle Designation on BLM Administered Land
 - Closed
 - Limited Designated
 - Limited Existing
 - Limited Seasonally/Closed
 - Limited Seasonally/Designated
 - Limited Seasonally/Existing
 - Open
- Cooperative Management and Protection Area Boundary
- Planning Area Boundary
- Andres Resource Area Boundary
- BLM Administered Land Outside the Planning Area Boundary
- Wilderness Study Area
- U.S. Fish and Wildlife Service Land
- State Land
- Private Land



U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management



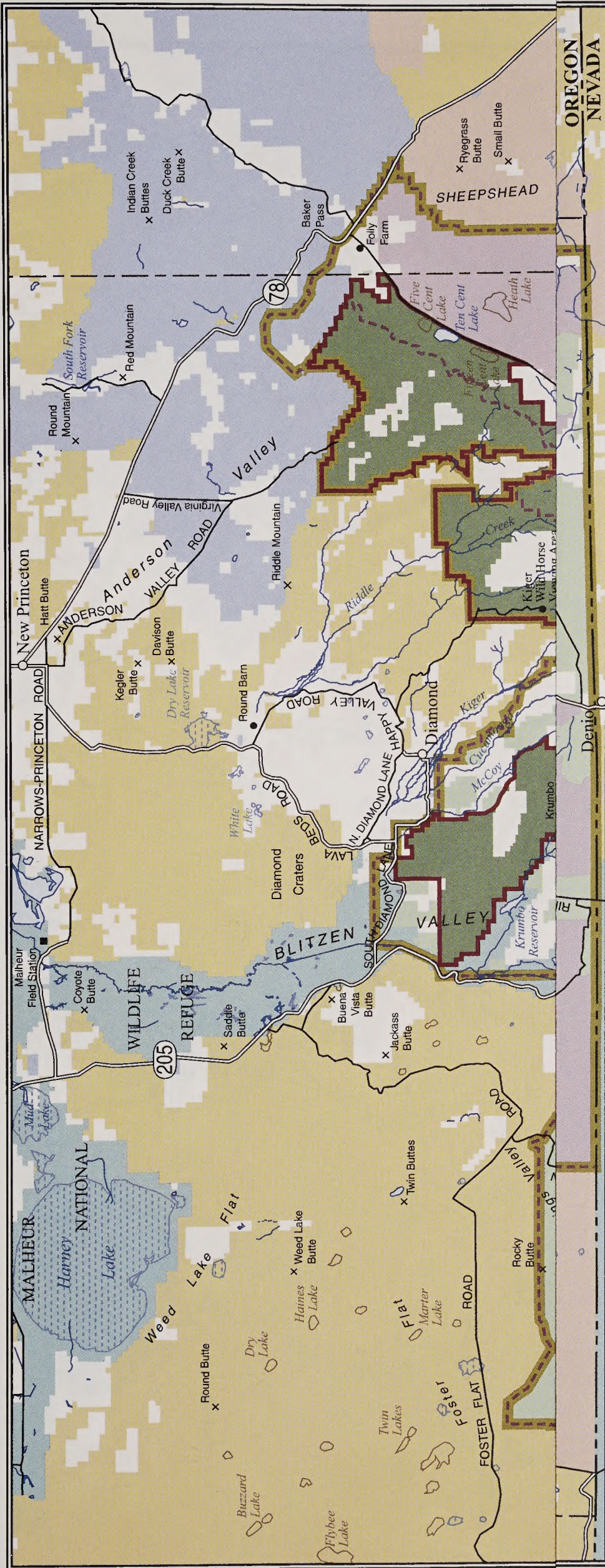
BURNS DISTRICT

Andres Management Unit / Steens Mountain Cooperative Management and Protection Area Draft Resource Management Plan

2003

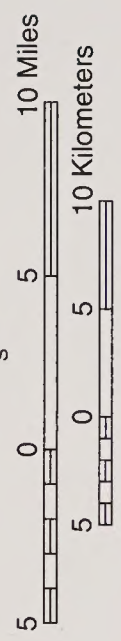
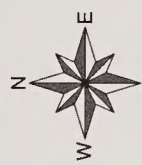
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 2.12: Off Highway Vehicle Designations within the RMP Area - Alternative D



LEGEND

- Paved Road
- Non-Paved Improved Road
- Off Highway Vehicle Designation on BLM Administered Land
- Closed
- Limited Designated
- Limited Existing
- Limited Seasonally/Closed
- Limited Seasonally/Designated
- Limited Seasonally/Existing
- Limited Seasonally/Open
- Open
- Cooperative Management and Protection Area Boundary
- Planning Area Boundary
- Andrews Resource Area Boundary
- BLM Administered Land Outside the Planning Area Boundary
- Wilderness Study Area
- U.S. Fish and Wildlife Service Land
- State Land
- Private Land



U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management



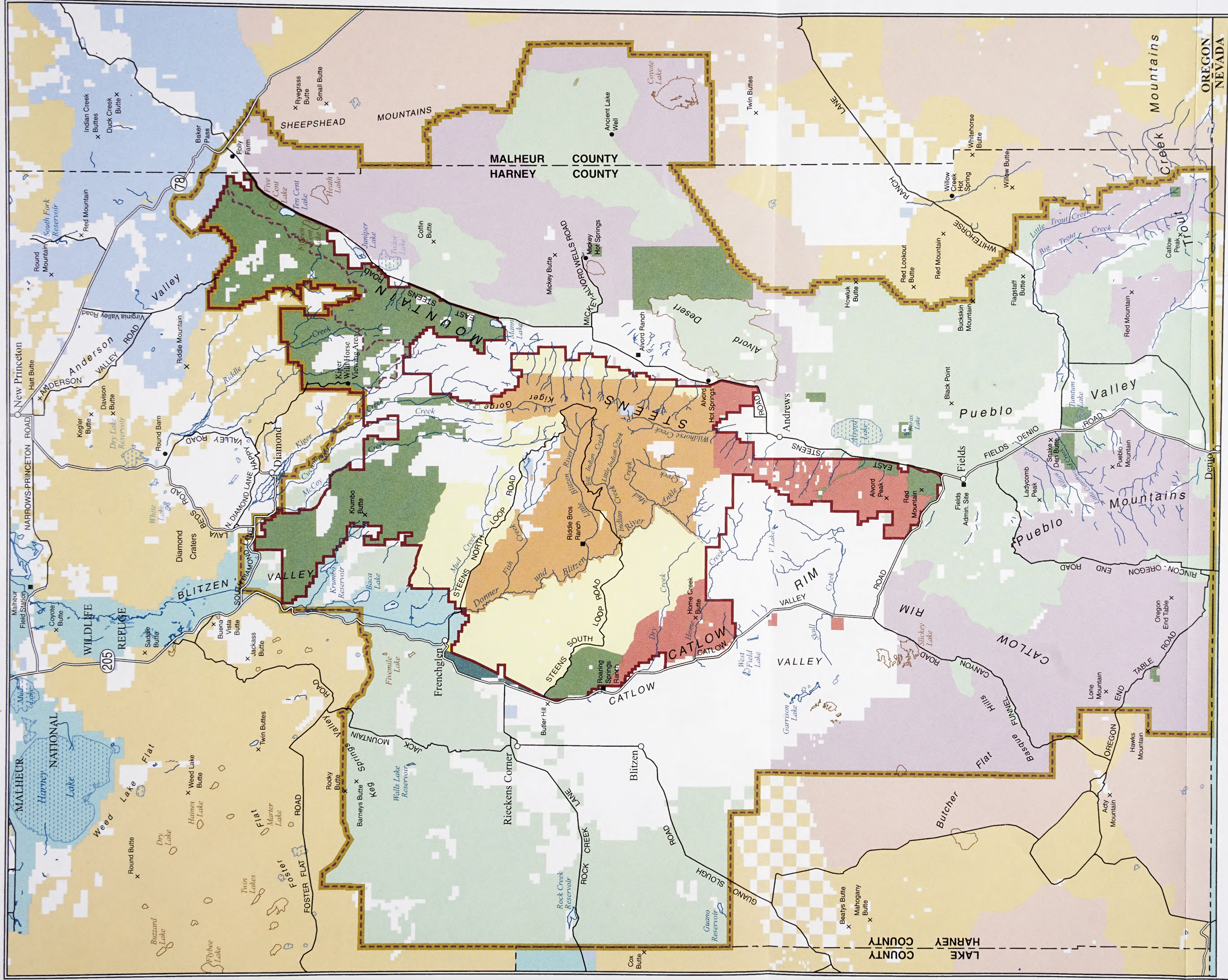
BURNS DISTRICT

Andrews Management Unit /
Steens Mountain Cooperative
Management and Protection Area
Draft Resource Management Plan
2003

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

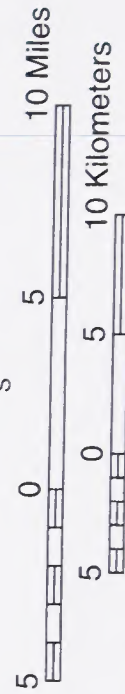
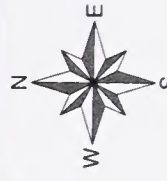


Map 2.13: Off Highway Vehicle Designations within the RMP Area - Alternative E



LEGEND

- | | | | |
|--|--|--|--|
| | Paved Road | | Cooperative Management and Protection Area Boundary |
| | Non-Paved Improved Road | | Planning Area Boundary |
| | Off Highway Vehicle Designation on BLM Administered Land | | Andrews Resource Area Boundary |
| | Closed | | BLM Administered Land Outside the Planning Area Boundary |
| | Limited Designated | | Wilderness Study Area |
| | Limited Existing | | U.S. Fish and Wildlife Service Land |
| | Limited Seasonally/Closed | | State Land |
| | Limited Seasonally/Designated | | Private Land |
| | Limited Seasonally/Existing | | |
| | Limited Seasonally/Open | | |
| | Open | | |

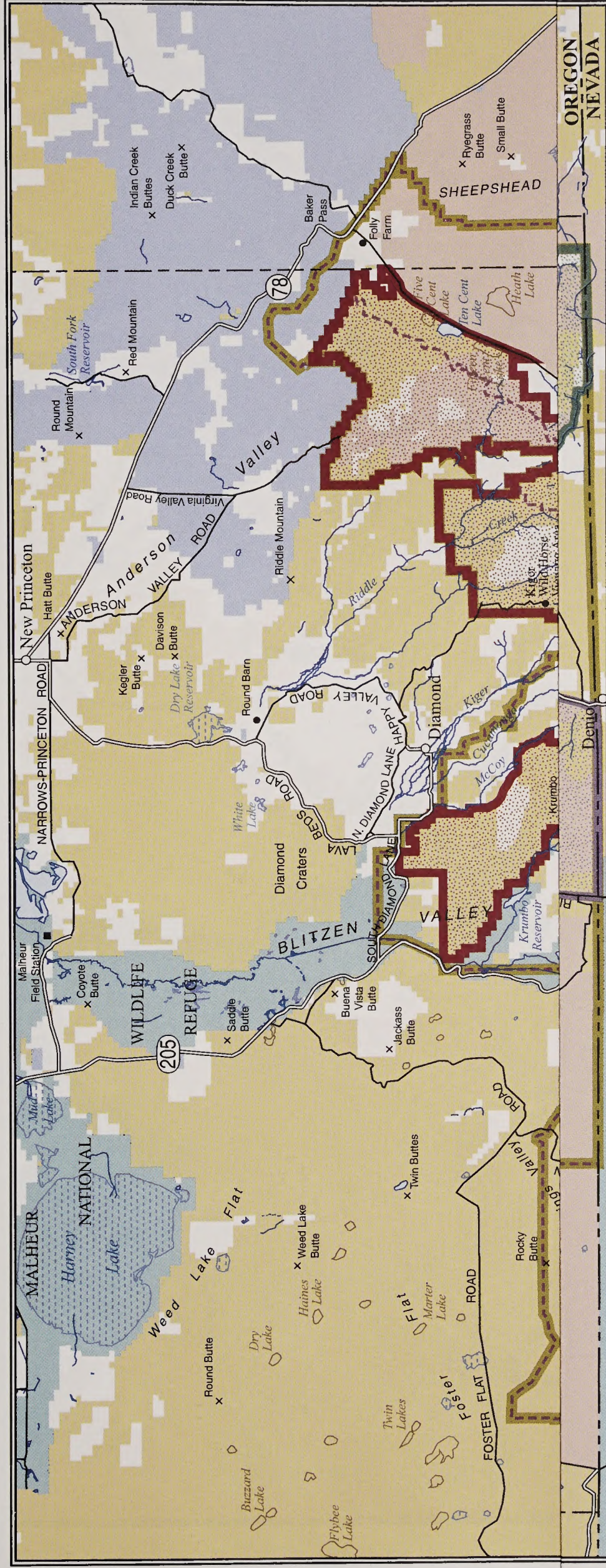


Andrus Management Unit / Steens Mountain Cooperative Management and Protection Area Draft Resource Management Plan
2003



No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 2.13: Off Highway Vehicle Designations within the RMP Area - Alternative E



LEGEND

● RNA/ACEC

SRMA

- Pueblo Mountains
- Steens Mountain (coincident with CMPA)
- Trout Creek Mountains

- Paved Road
- Non-Paved Improved Road
- Planning Area Boundary
- Andrews Resource Area Boundary
- BLM Administered Land
- Wilderness
- Wilderness Study Area
- U.S. Fish and Wildlife Service Land
- State Land
- Private Land

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

BURNS DISTRICT

**Andrews Management Unit /
Steens Mountain Cooperative
Management and Protection Area
Draft Resource Management Plan
2003**

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

N
W E S

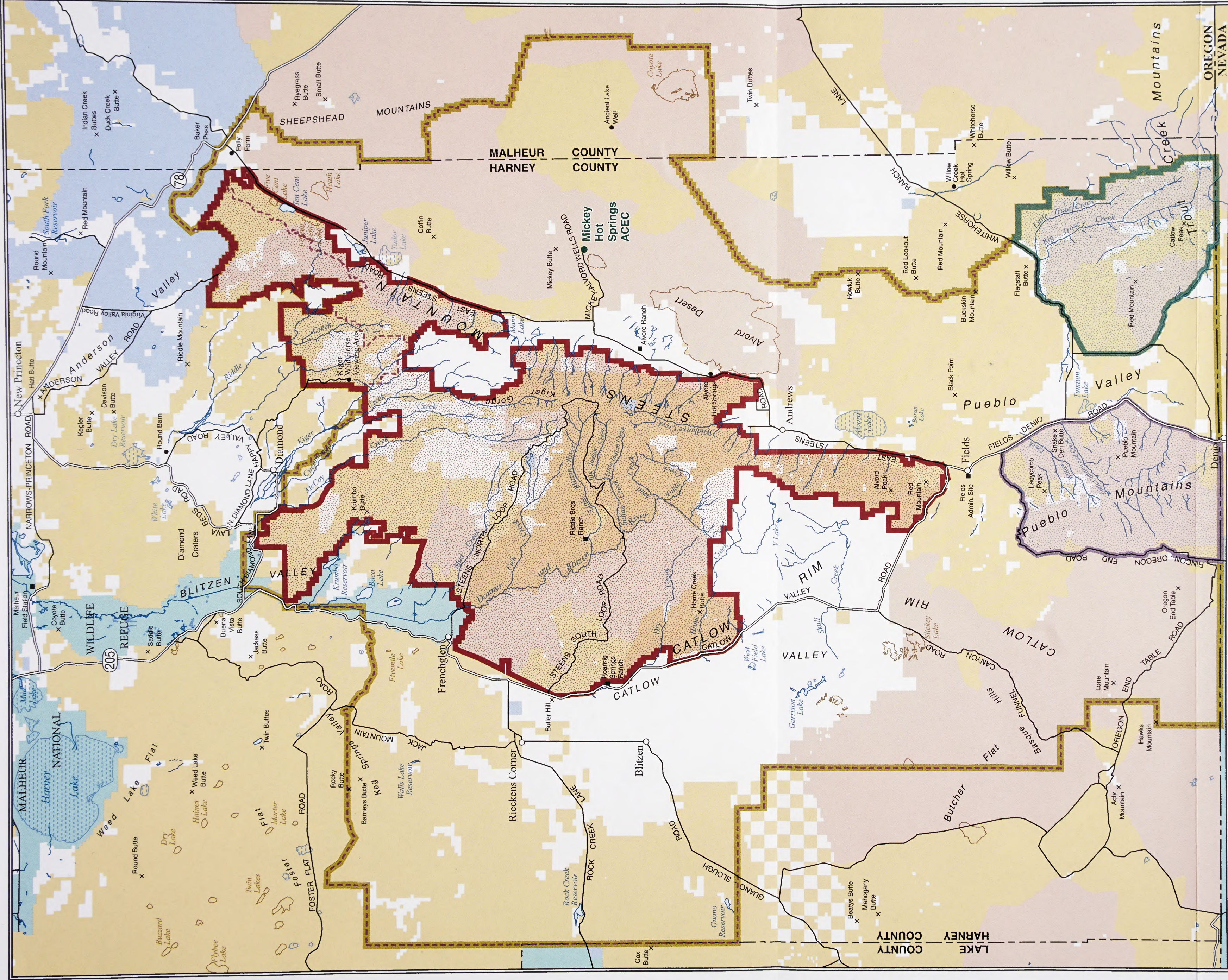
5 0 5 10 Miles

5 0 5 10 Kilometers

OREGON
Planning Area

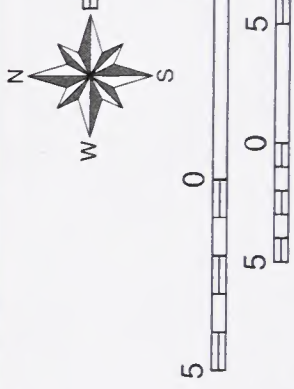
Map 2.14: Areas of Critical Environmental Concern/Research Natural Areas within the RMP Area - Alternatives B and E and Special Recreation Management Areas within the RMP Area - Alternative E Only

D05-02-03:PF-073003



LEGEND

- SRMA
 - Pueblo Mountains
 - Steens Mountain (coincident with CMPA)
 - Trout Creek Mountains
- RNA/ACEC
- BLM Administered Land
 - Wilderness
 - Wilderness Study Area
 - U.S. Fish and Wildlife Service Land
 - State Land
 - Private Land
- Transportation
 - Paved Road
 - Non-Paved Improved Road
 - Planning Area Boundary
 - Andrus Resource Area Boundary



U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management



BURNS DISTRICT

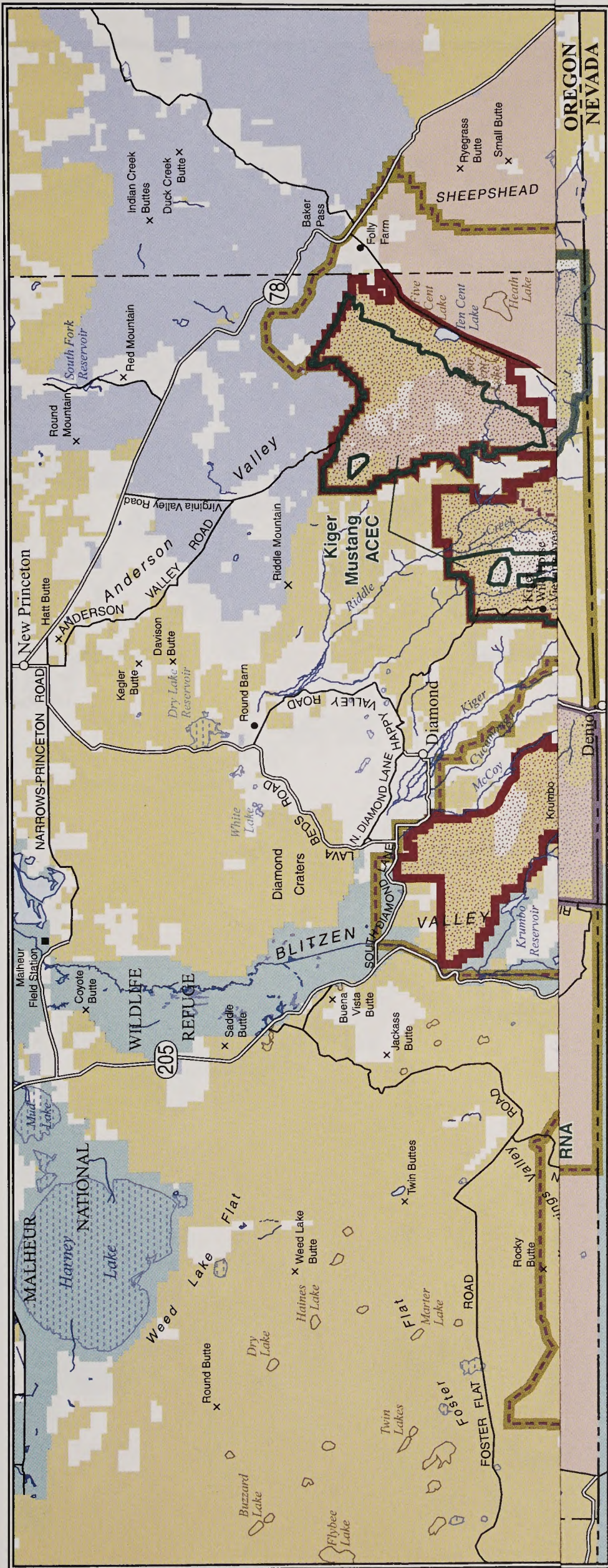
**Andrus Management Unit /
Steens Mountain Cooperative
Management and Protection Area
Draft Resource Management Plan**

2003

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.



Map 2.14: Areas of Critical Environmental Concern/Research Natural Areas within the RMP Area - Alternatives B and E and Special Recreation Management Areas within the RMP Area - Alternative E Only



LEGEND

	RNA/ACEC		Paved Road
	SRMA		Non-Paved Improved Road
	Pueblo Mountains		Planning Area Boundary
	Steens Mountain (coincident with CMPA)		Andrews Resource Area Boundary
	Trout Creek Mountains		BLM Administered Land
			Wilderness
			Wilderness Study Area
			U.S. Fish and Wildlife Service Land
			State Land
			Private Land

5 0 5 10 Miles

5 0 5 10 Kilometers

OREGON

Planning Area

U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

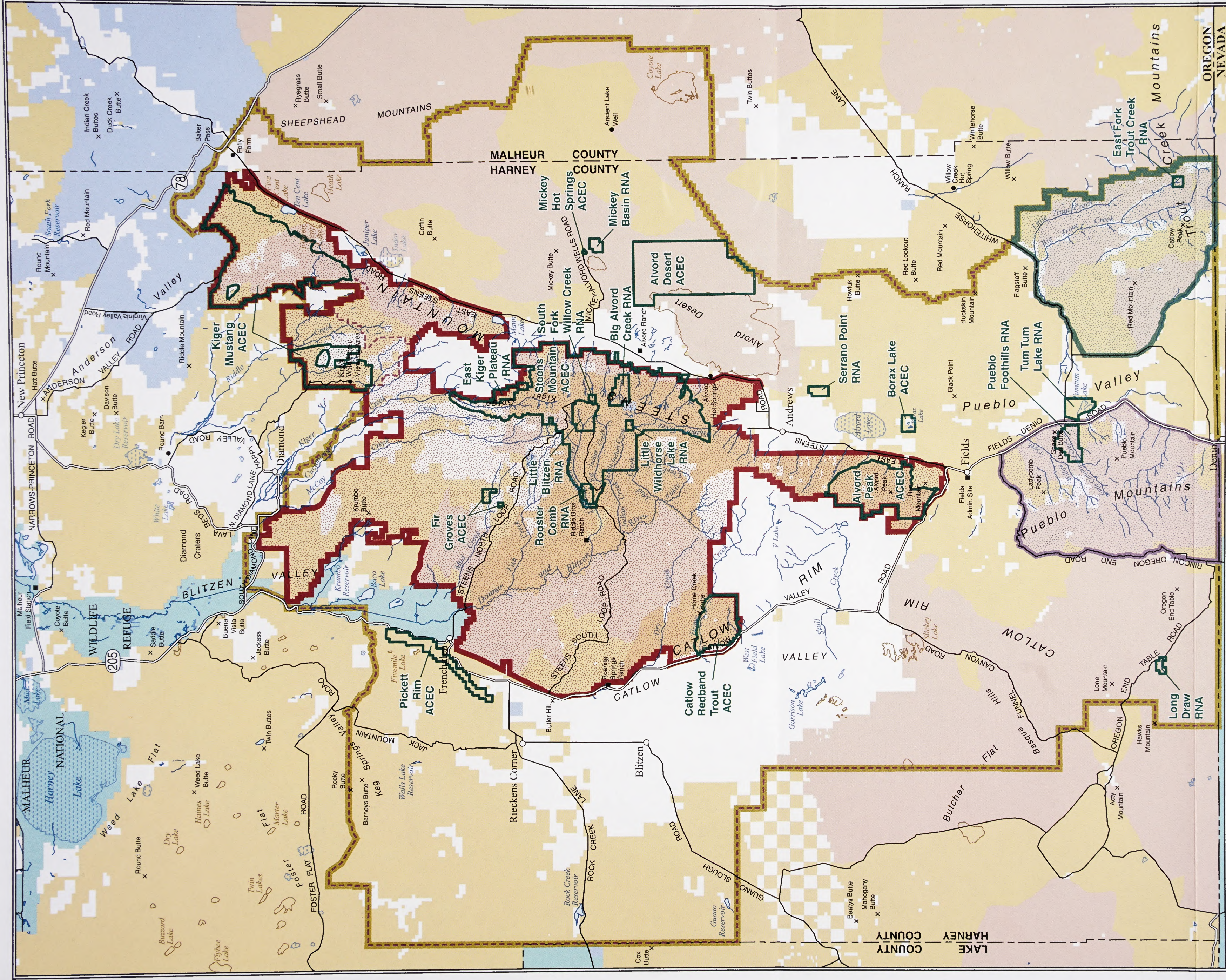
BURNS DISTRICT

**Andrews Management Unit /
Steens Mountain Cooperative
Management and Protection Area
Draft Resource Management Plan
2003**


No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.


D05-02-03:PF:073003

Map 2.15: Areas of Critical Environmental Concern/Research Natural Area and Special Recreation Management Areas within the RMP Area - Alternative C

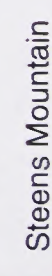


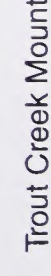

LEGEND

-  RNA/ACEC


 SRMA


 Pueblo Mountains


 Steens Mountain (coincident with CMPA)


 Trout Creek Mountains
-  Paved Road


 Non-Paved Improved Road


 Planning Area Boundary

 Andrews Resource Area Boundary
-  BLM Administered Land

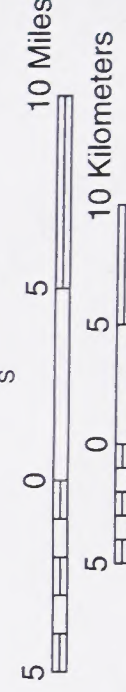
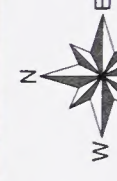
 Wilderness

 Wilderness Study Area

 U.S. Fish and Wildlife Service Land

 State Land

 Private Land



**Andrews Management Unit /
Steens Mountain Cooperative
Management and Protection Area
Draft Resource Management Plan**

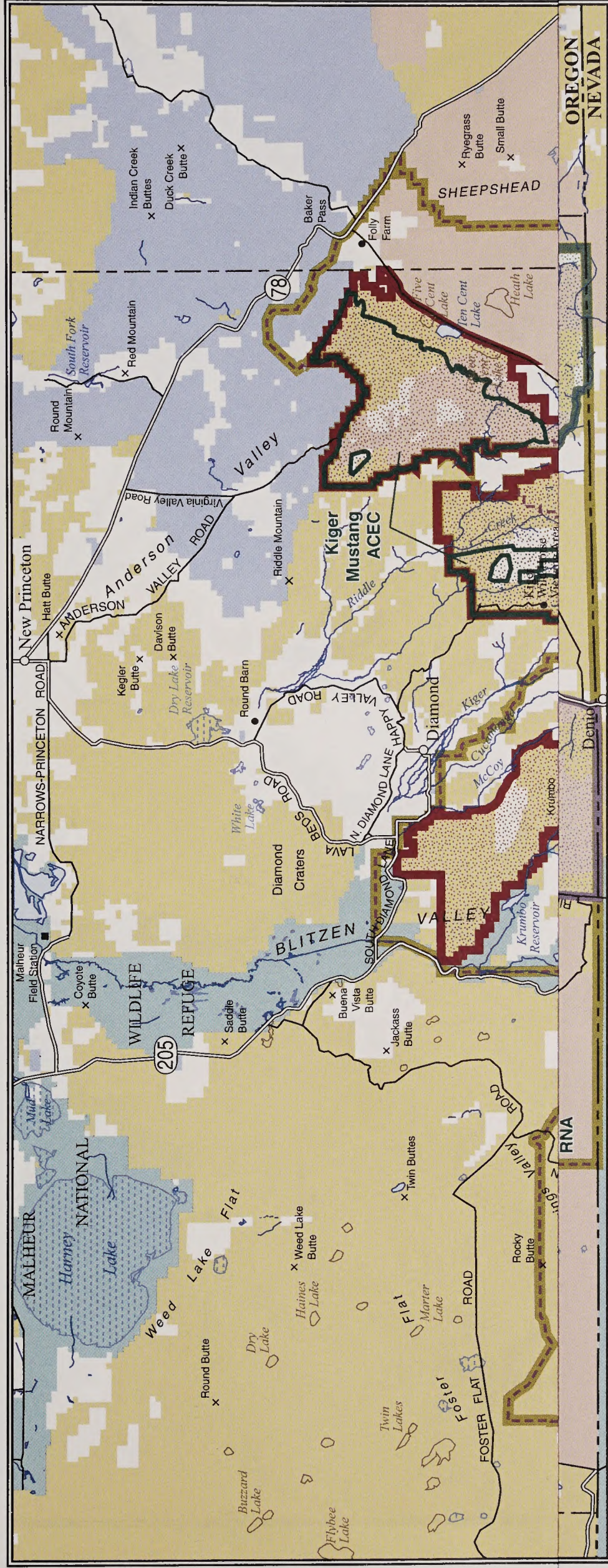
BURNS DISTRICT

2003



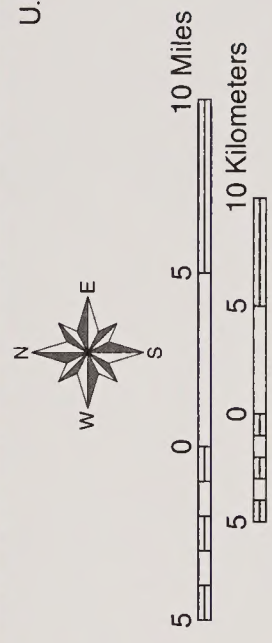
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 2.15: Areas of Critical Environmental Concern/Research Natural Area and Special Recreation Management Areas within the RMP Area - Alternative C



LEGEND

- RNA/ACEC
- Pueblo Mountains
- Steens Mountain (coincident with CMPA)
- Trout Creek Mountains
- Paved Road
- Non-Paved Improved Road
- Planning Area Boundary
- Andrews Resource Area Boundary
- BLM Administered Land
- Wilderness
- Wilderness Study Area
- U.S. Fish and Wildlife Service Land
- State Land
- Private Land



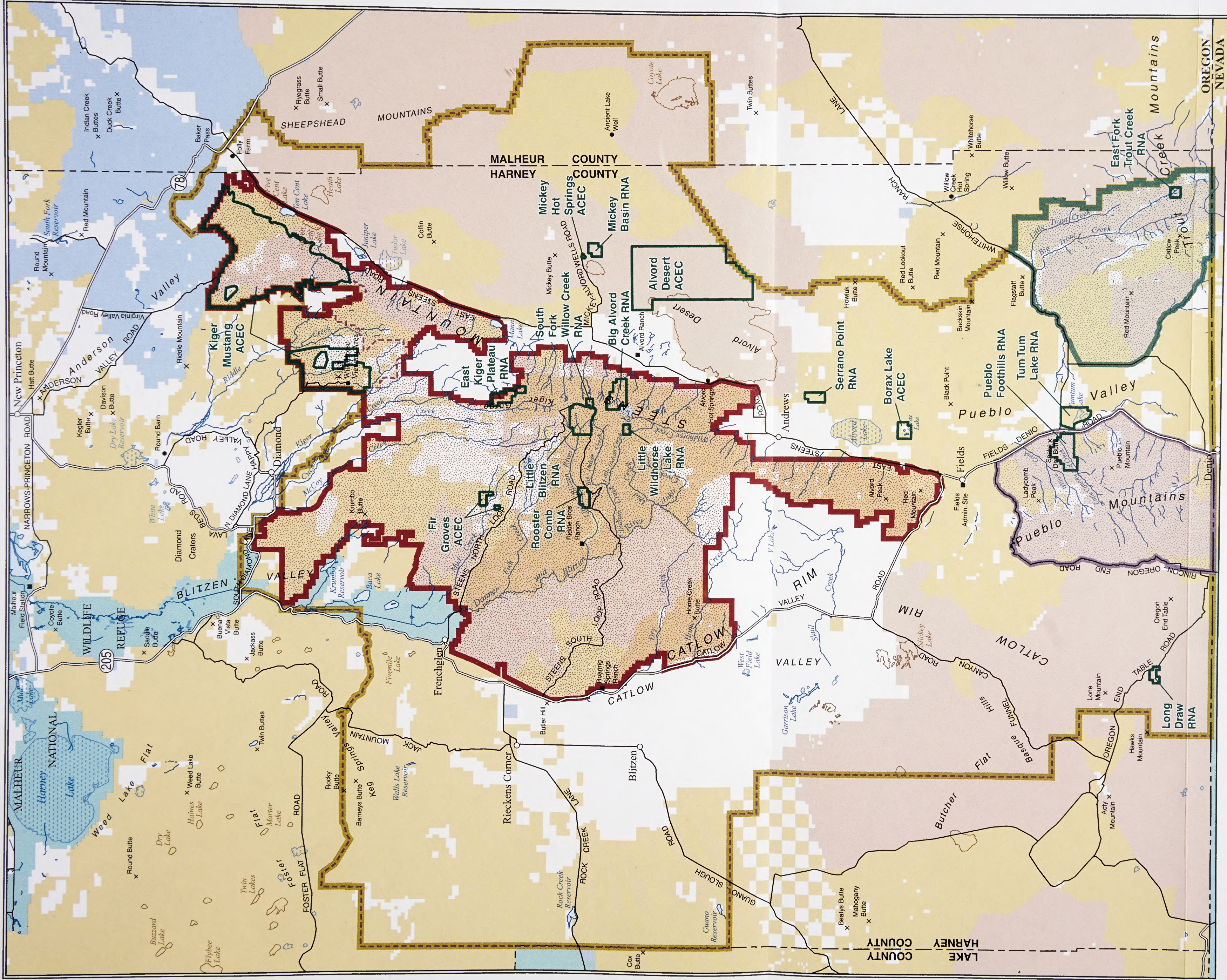
U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management



Andrews Management Unit / Steens Mountain Cooperative Management and Protection Area Draft Resource Management Plan 2003

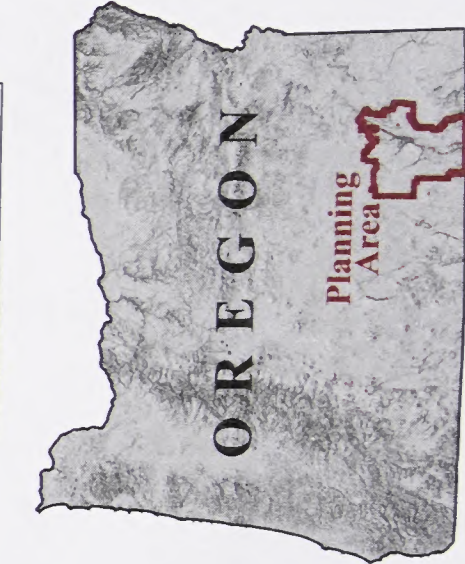
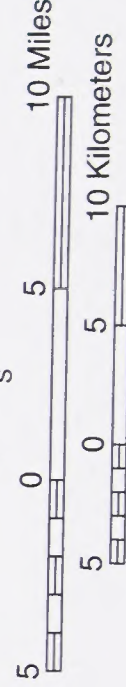
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 2.16: Areas of Critical Environmental Concern/Research Natural Area and Special Recreation Management Areas within the RMP Area - Alternative D



LEGEND

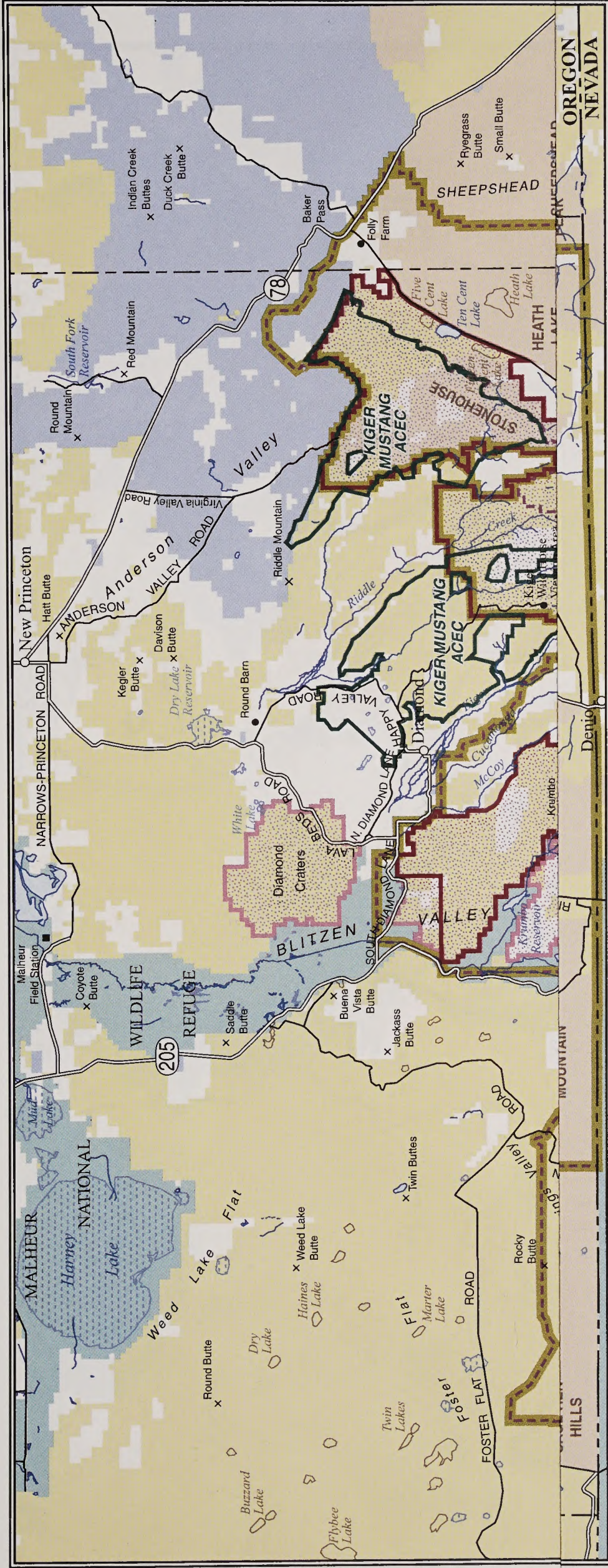
- | | |
|--|-------------------------------------|
| RNA/ACEC | Paved Road |
| SRMA | Non-Paved Improved Road |
| Pueblo Mountains | Planning Area Boundary |
| Steens Mountain (coincident with CMPA) | Andrews Resource Area Boundary |
| Trout Creek Mountains | BLM Administered Land |
| | Wilderness |
| | Wilderness Study Area |
| | U.S. Fish and Wildlife Service Land |
| | State Land |
| | Private Land |



**Andrews Management Unit /
Steens Mountain Cooperative
Management and Protection Area
Draft Resource Management Plan
2003**

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 2.16: Areas of Critical Environmental Concern/Research Natural Area and Special Recreation Management Areas within the RMP Area - Alternative D



LEGEND

Special Area	Resource Natural Area	Area of Critical Environmental Concern	Special Recreation Management Area (coincident with CMPA)	No Livestock Grazing Perimeter	Wildland Juniper Management Area (WJMA)	Mineral Withdrawal	Riddle Brothers Ranch Historic District
	[Pink box]	[Dark blue box]	[Red box]	[Green box]	[Hatched box]	[Purple box]	[Blue box]

Paved Road	[Double line]
Non-Paved Improved Road	[Single line]
Planning Area Boundary	[Thick yellow line]
Andrews Resource Area Boundary	[Dashed red line]
BLM Administered Land	[Yellow box]
Wilderness	[Orange box]
Wilderness Study Area	[Light orange box]
U.S. Fish and Wildlife Service Land	[Light blue box]
State Land	[Medium blue box]
Private Land	[White box]

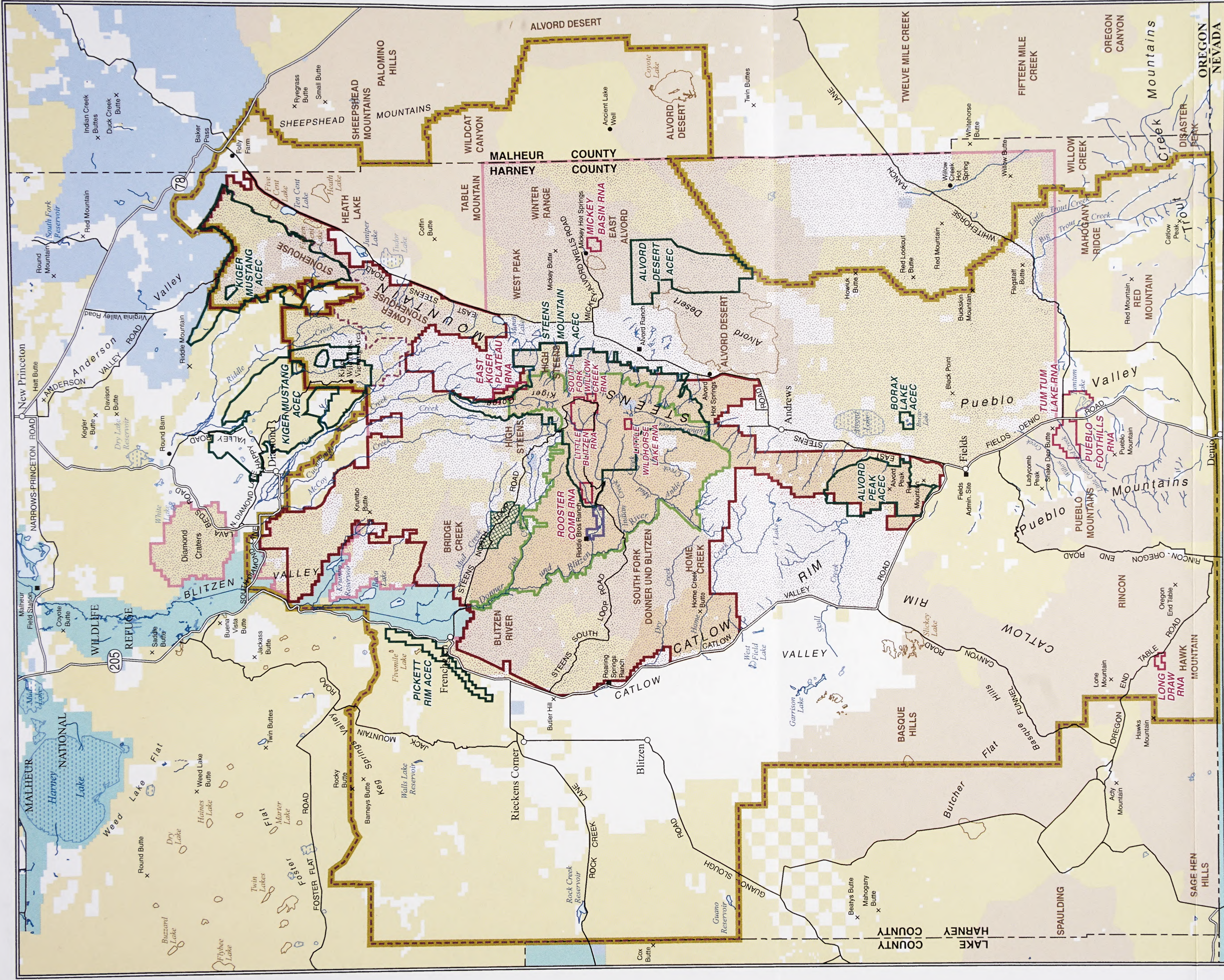
U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

BURNS DISTRICT

Andrews Management Unit / Steens Mountain Cooperative Management and Protection Area Draft Resource Management Plan 2003

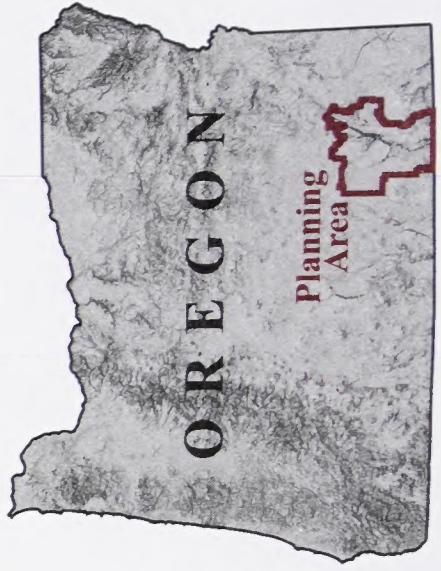
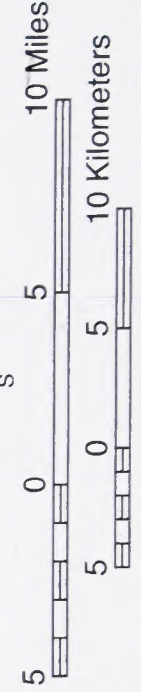
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 2.17: Special Areas



LEGEND

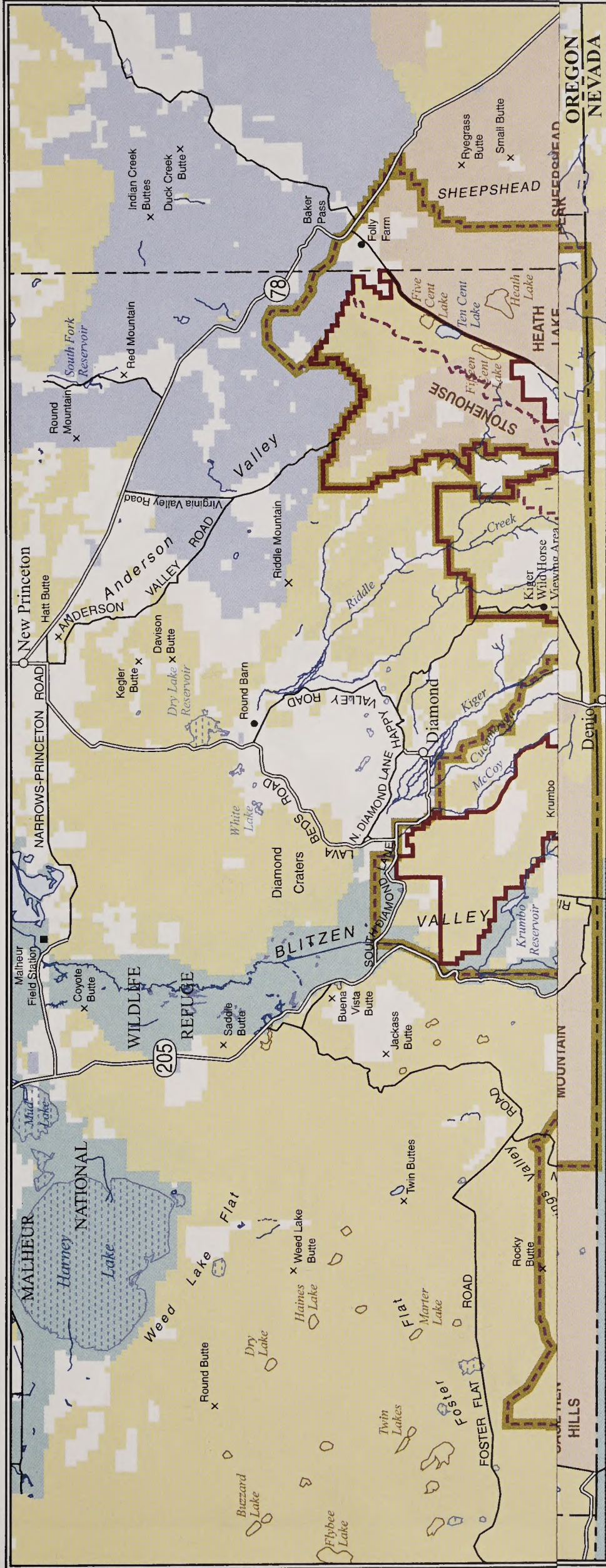
- | | |
|---|-------------------------------------|
| Resource Natural Area | Paved Road |
| Area of Critical Environmental Concern | Non-Paved Improved Road |
| Special Recreation Management Area (coincident with CMPA) | Planning Area Boundary |
| No Livestock Grazing Perimeter | Andrews Resource Area Boundary |
| Wildland Juniper Management Area (WJMA) | BLM Administered Land |
| Mineral Withdrawal | Wilderness |
| Riddle Brothers Ranch Historic District | Wilderness Study Area |
| | U.S. Fish and Wildlife Service Land |
| | State Land |
| | Private Land |



**Andrews Management Unit /
Steens Mountain Cooperative
Management and Protection Area
Draft Resource Management Plan
2003**

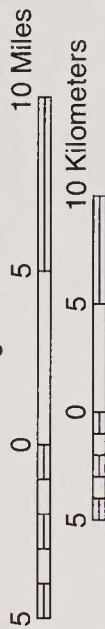
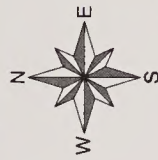
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 2.17: Special Areas



LEGEND

- | | | | |
|--|-------------------------|--|---|
| | Alvord Desert | | Cooperative Management and Protection Area Boundary |
| | Bridge Creek | | Planning Area Boundary |
| | High Steens | | Andrews Resource Area Boundary |
| | Lower Stonehouse | | BLM Administered Land |
| | Paved Road | | Wilderness |
| | Non-Paved Improved Road | | Wilderness Study Area |
| | | | U.S. Fish and Wildlife Service Land |
| | | | State Land |
| | | | Private Land |



U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management

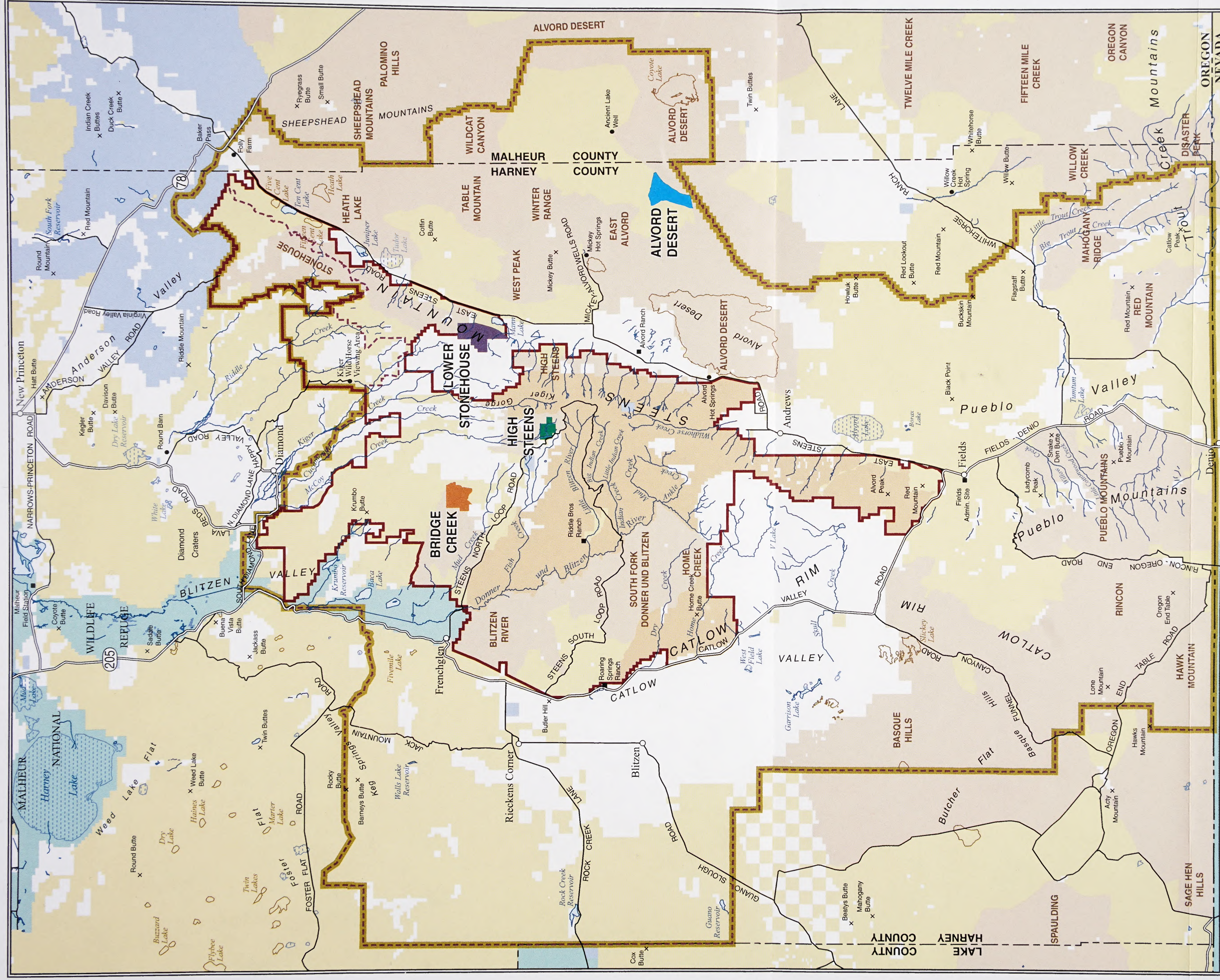
BURNS DISTRICT

Andrews Management Unit / Steens Mountain Cooperative Management and Protection Area Draft Resource Management Plan 2003



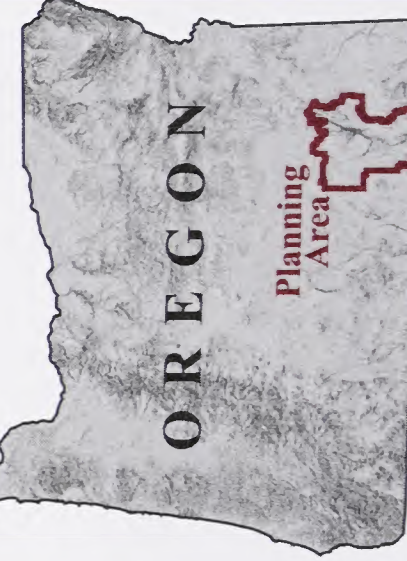
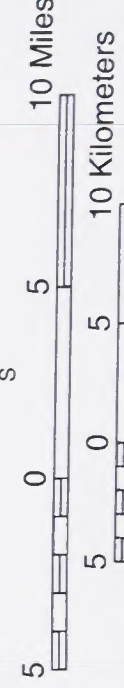
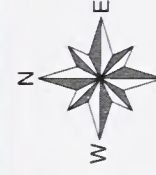
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 2.18: Parcels with Wilderness Values - Alternative C



LEGEND

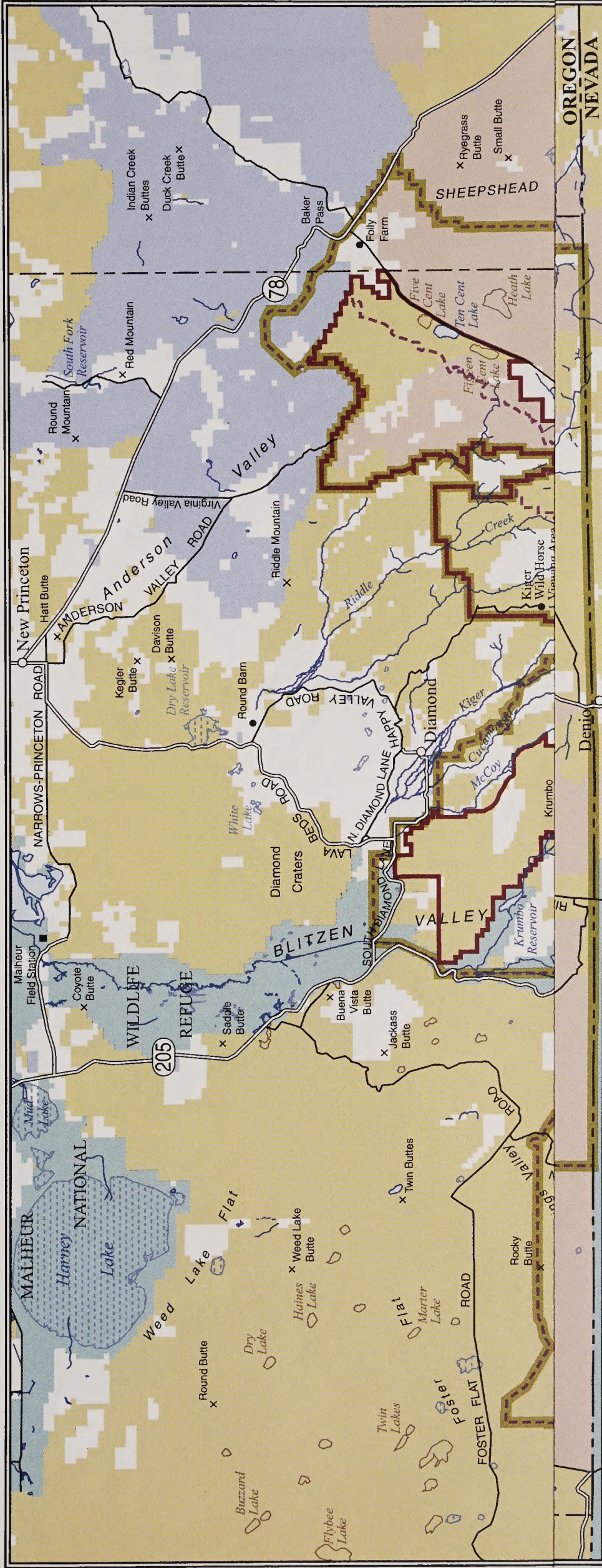
- | | |
|-------------------------|---|
| Alvord Desert | Cooperative Management and Protection Area Boundary |
| Bridge Creek | Planning Area Boundary |
| High Steens | Andrews Resource Area Boundary |
| Lower Stonehouse | BLM Administered Land |
| Paved Road | Wilderness |
| Non-Paved Improved Road | Wilderness Study Area |
| | U.S. Fish and Wildlife Service Land |
| | State Land |
| | Private Land |



Andrews Management Unit / Steens Mountain Cooperative Management and Protection Area Draft Resource Management Plan 2003

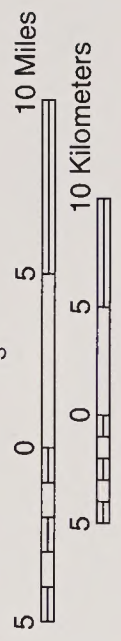
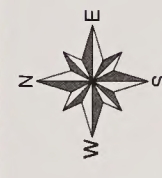
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 2.18: Parcels with Wilderness Values - Alternative C



LEGEND

- Wild and Scenic River
- Riddle Brothers Ranch Historic District
- Wild and Scenic River Corridor
- Paved Road
- Non-Paved Improved Road
- Cooperative Management and Protection Area Boundary
- Planning Area Boundary
- Andrews Resource Area Boundary
- BLM Administered Land
- Wilderness
- Wilderness Study Area
- U.S. Fish and Wildlife Service Land
- State Land
- Private Land

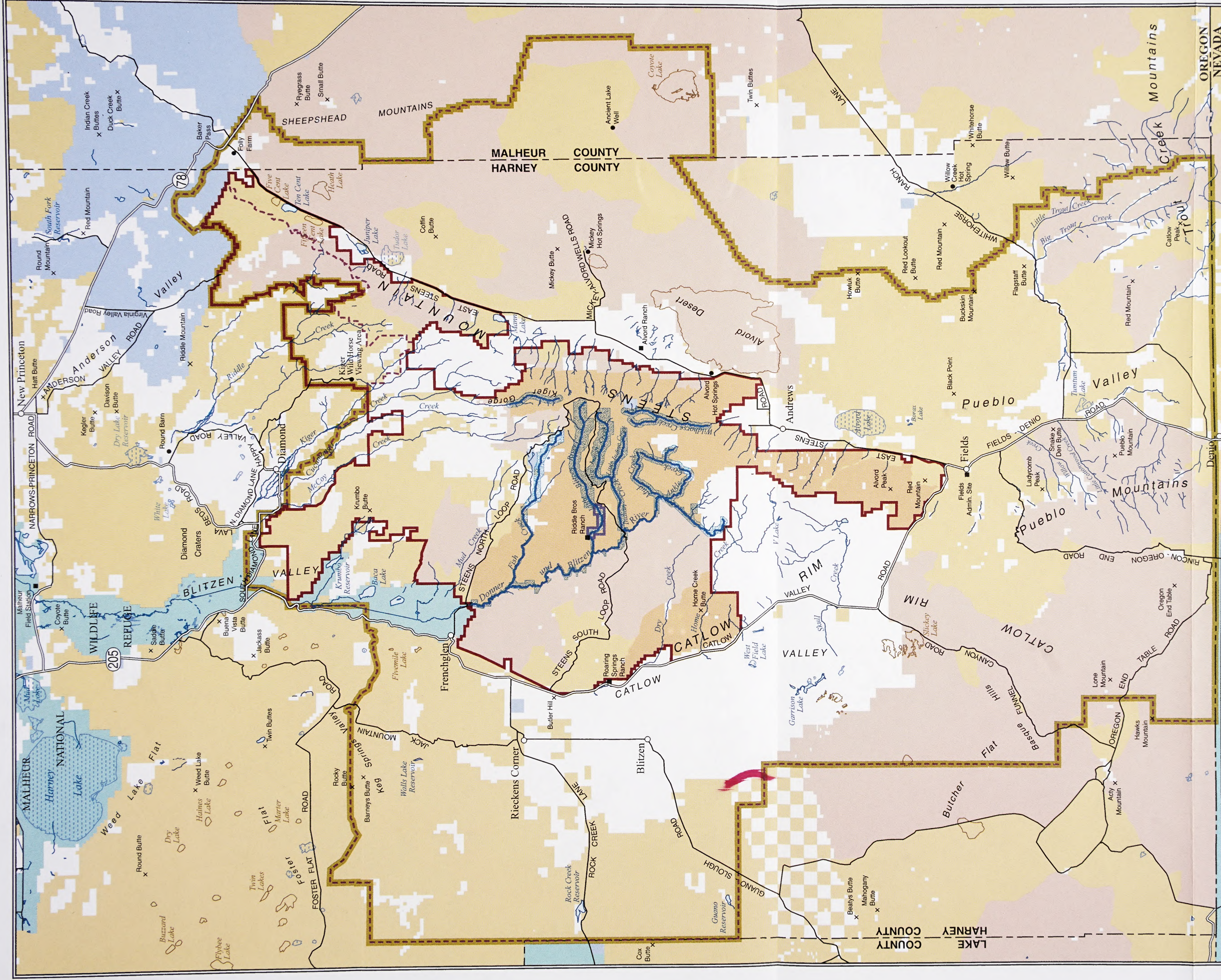


Andrews Management Unit / Steens Mountain Cooperative Management and Protection Area Draft Resource Management Plan 2003



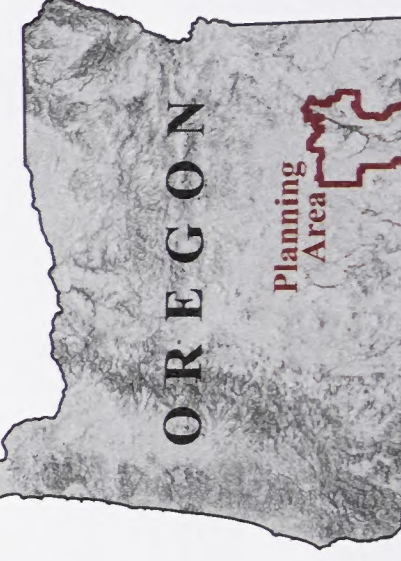
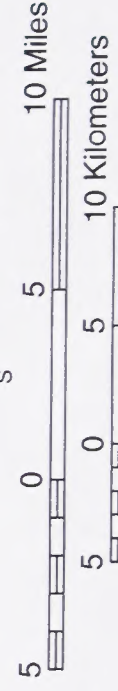
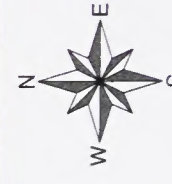
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 2.19: Wilderness/Wild and Scenic River Plan



LEGEND

- | | |
|---|---|
| Wild and Scenic River | Cooperative Management and Protection Area Boundary |
| Riddle Brothers Ranch Historic District | Planning Area Boundary |
| Wild and Scenic River Corridor | Andrews Resource Area Boundary |
| Paved Road | BLM Administered Land |
| Non-Paved Improved Road | Wilderness |
| | Wilderness Study Area |
| | U.S. Fish and Wildlife Service Land |
| | State Land |
| | Private Land |

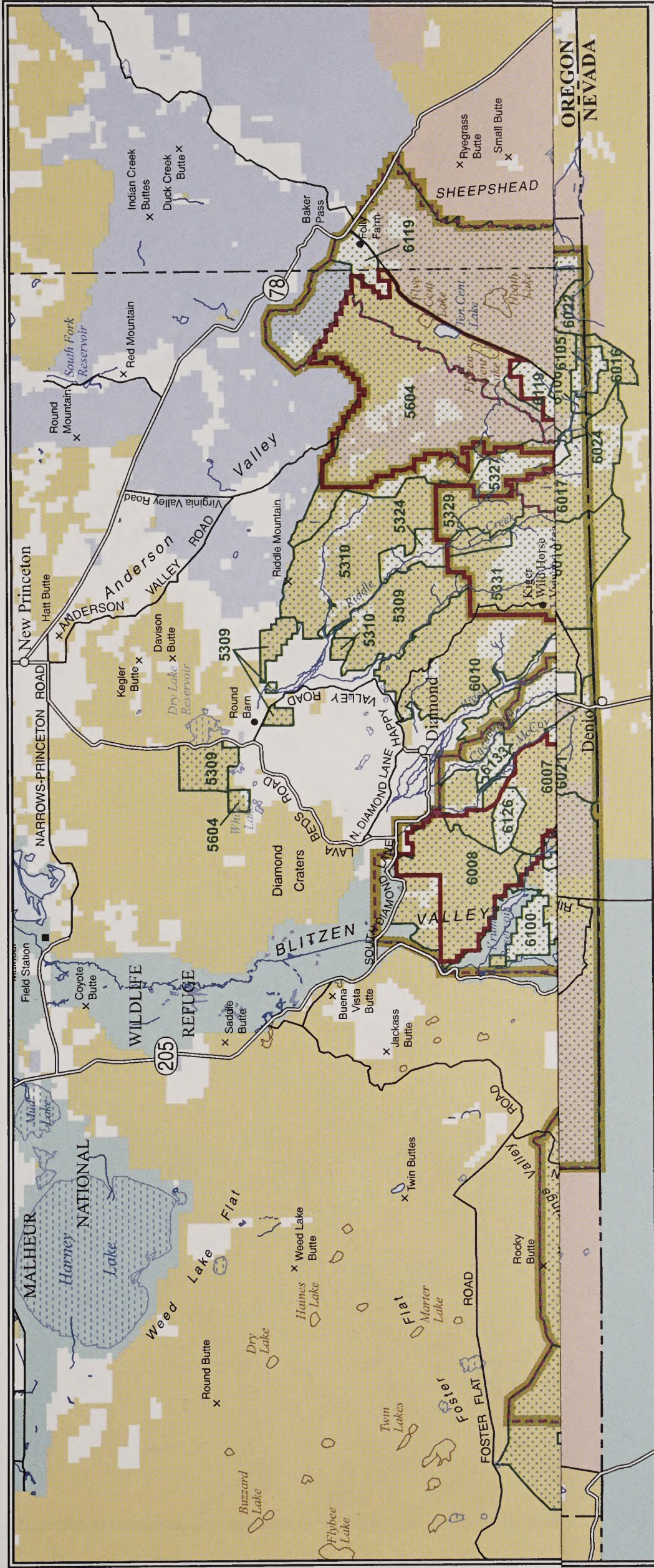


**Andrews Management Unit /
Steens Mountain Cooperative
Management and Protection Area
Draft Resource Management Plan**

2003

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 2.19: Wilderness/Wild and Scenic River Plan



U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management



BURNS DISTRICT

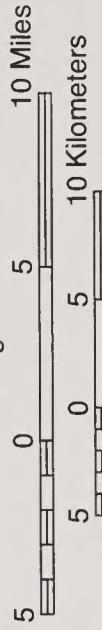
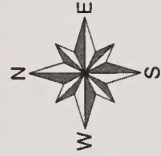
Andrews Management Unit / Steens Mountain Cooperative Management and Protection Area Draft Resource Management Plan 2003

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

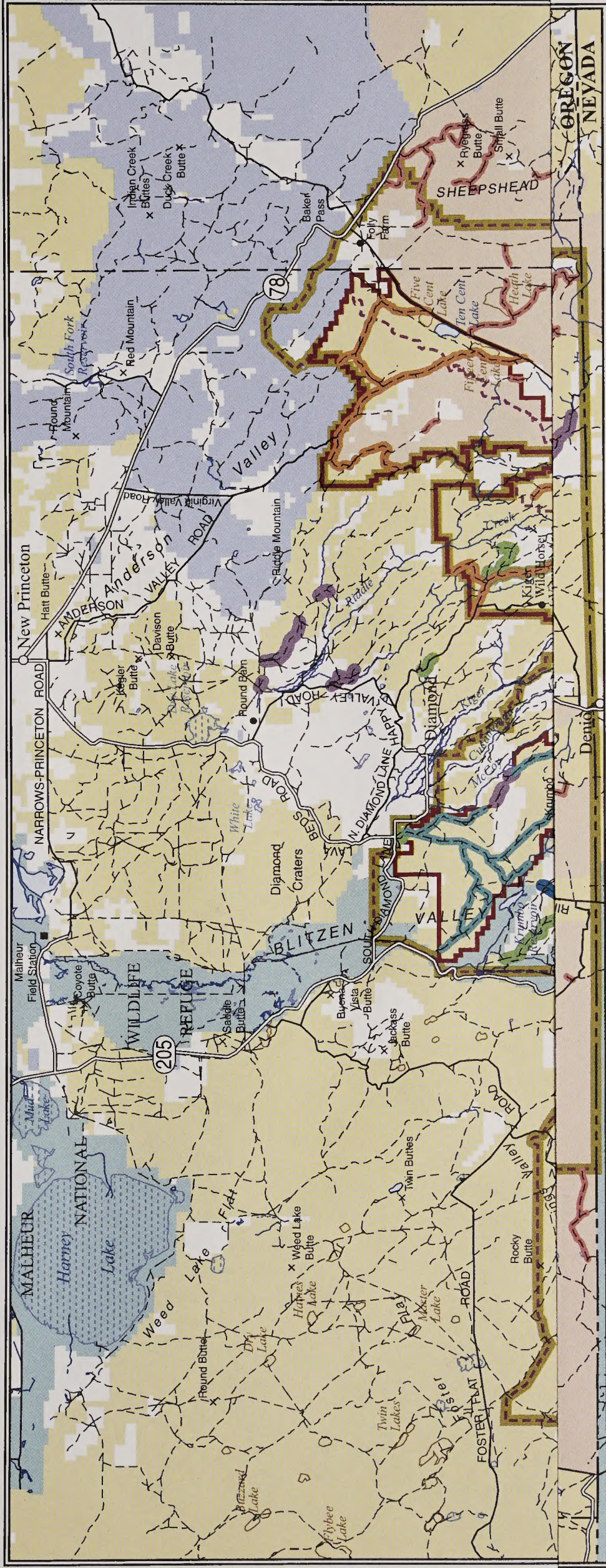
D05-02-03:PF-073103

LEGEND

- Grazing Allotment and Number
- No Livestock Grazing Perimeter
- Cooperative Management and Protection Area Boundary
- Planning Area Boundary
- Andrews Resource Area Boundary
- Paved Road
- Non-Paved Improved Road
- BLM Administered Land
- Wilderness
- Wilderness Study Area
- U.S. Fish and Wildlife Service Land
- State Land
- Private Land



Map 3.1: Allotment Boundaries within the RMP Area - Alternative A



- LEGEND**
- Paved Road
 - Non-Paved Improved Road
 - Primitive or Unknown Road Condition
 - Closed Road
 - Public Hiking Trail Easement
 - Public Motorized Easement
 - Potential Easement
 - Way
 - Wilderness Cherry Stem Road
 - Maintenance Level Within the CMPA
 - 2
 - 3
 - 5
 - Gate
 - Cooperative Management and Protection Area Boundary
 - Planning Area Boundary
 - Andrews Resource Area Boundary
 - BLM Administered Land
 - Wilderness
 - Wilderness Study Area
 - U.S. Fish and Wildlife Service Land
 - State Land
 - Private Land



U.S. DEPARTMENT OF THE INTERIOR
Bureau of Land Management



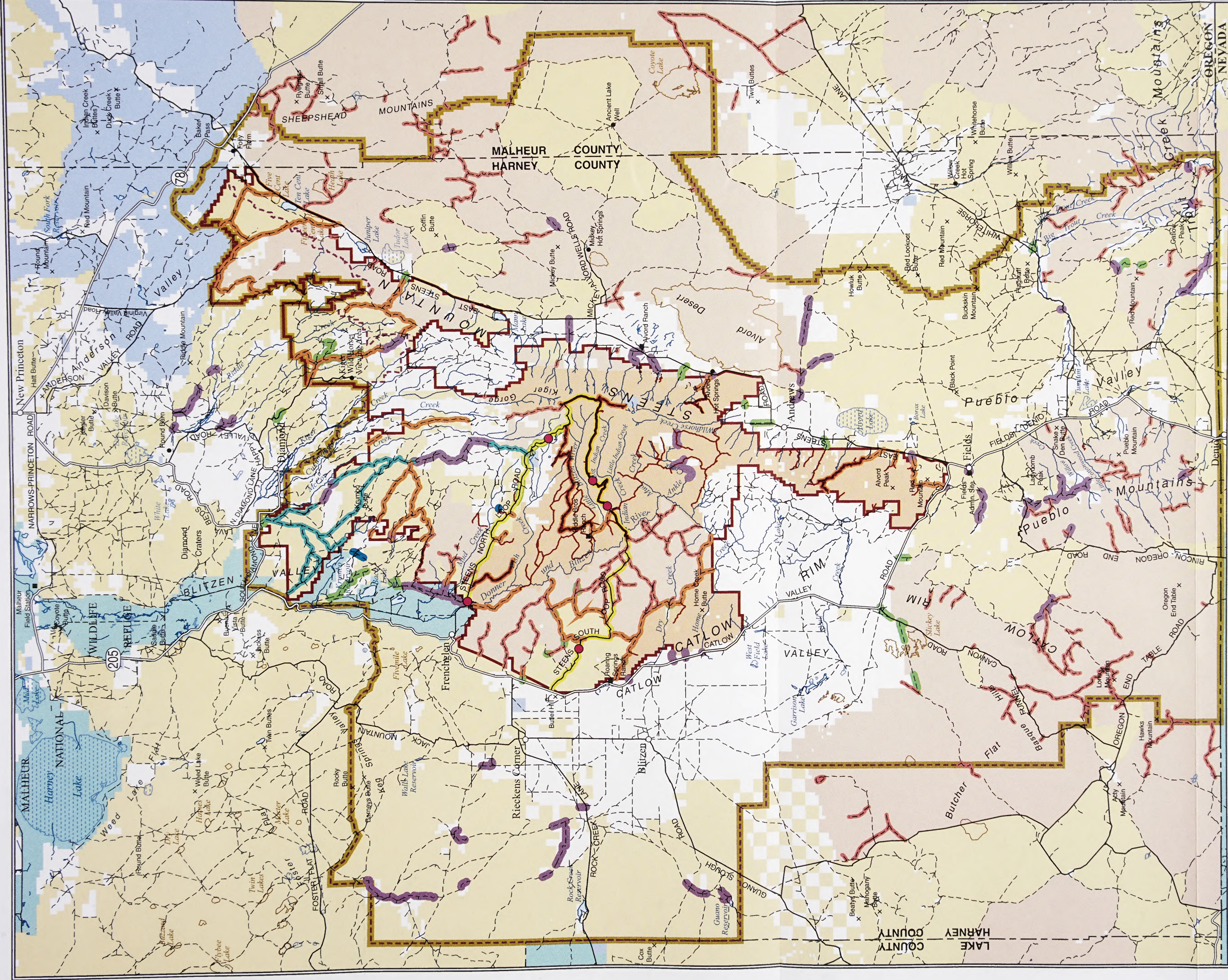
BURNS DISTRICT

**Andrews Management Unit /
Steens Mountain Cooperative
Management and Protection Area
Draft Resource Management Plan
2003**

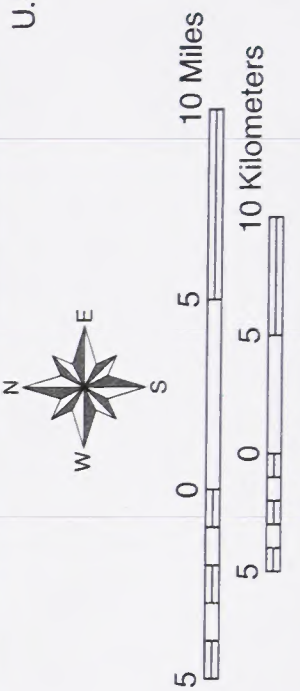
No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.



Map 3.2: Transportation Plan within the RMP Area - Alternative A



- LEGEND**
- Paved Road
 - Non-Paved Improved Road
 - Primitive or Unknown Road Condition
 - Closed Road
 - Public Hiking Trail Easement
 - Public Motorized Easement
 - Potential Easement
 - Way
 - Wilderness Cherry Stem Road
 - Maintenance Level Within the CMPA
 - Gate
 - Cooperative Management and Protection Area Boundary
 - Planning Area Boundary
 - Andrews Resource Area Boundary
 - BLM Administered Land
 - Wilderness
 - Wilderness Study Area
 - U.S. Fish and Wildlife Service Land
 - State Land
 - Private Land



**Andrews Management Unit /
Steens Mountain Cooperative
Management and Protection Area
Draft Resource Management Plan
2003**

No warranty is made by the Bureau of Land Management as to the accuracy, reliability, or completeness of these data for individual or aggregate use with other data. Original data were compiled from various sources. This information may not meet National Map Accuracy Standards. This product was developed through digital means and may be updated without notification.

Map 3.2: Transportation Plan within the RMP Area - Alternative A

